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Published by
THE NATIONAL ASSOCIATION OF
AUDUBON SOCIETIES

BIRD-LORE

A BI-MONTHLY MAGAZINE DEVOTED TO THE STUDY AND PROTECTION OF BIRDS AND MAMMALS

Published at Crescent and Mulberry Streets, Harrisburg, Pa., by the National Association of Audubon Societies

Vol. XL JULY–AUGUST, 1938 No. 4

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BIRD-LORE is published bi-monthly by the National Association of Audubon Societies. Subscription price, $1.50 a year in the United States, $1.75 foreign. Single copies 30 cents. Notice of change of address should be received by the 10th of the month prior to issue with which it is to be effective. BIRD-LORE regrets that it cannot continue subscriptions beyond date of expiration. Checks and money orders should be made payable to BIRD-LORE.

Entered as second-class matter, August 6, 1900, at the Post Office at Harrisburg, Pa., under the Act of March 3, 1879.

Editorial and advertising offices, 1775 Broadway, New York, N. Y.

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From a painting by Roger T. Peterson

Limpkin

BIRD-LORE
JULY - AUGUST, 1938

Where Business Helps the Ducks

By Harrison F. Lewis

With illustrations by A. O. Gross

UNRESTRICTED exploitation and commercialization of natural resources are usually inimical to conservation. The remedy lies, not in prohibition of all trade and industry, which are essential to human welfare and progress, but in enlightened direction and supervision of these activities. When such guidance is provided, the rightful and permanent aims of conservation and of commerce may be seen to be mutually complementary and to be attainable by both. The treatment now being given our American Eiders is a case in point.

Eiders are distinguished among our water-fowl both by the arctic splendor of the gleaming drakes and by the numerous traditions about them that have developed during their long and intimate association with man, extending back at least to the seventh century, when St. Cuthbert protected and tamed them.

Later generations have, unfortunately, often failed to follow that holy man's example and have in many regions subjected these large, unwary Ducks to severe persecution. The harsh treatment accorded them on their nesting-grounds along the north shore of the Gulf of St. Lawrence during the nineteenth century and the two decades that followed, and the consequent marked reduction in their numbers have become generally known.

Sanctuaries and protective legislation now help to preserve all our water-fowl species, but the American Eiders have the unusual distinction of receiving additional conservation through industrial development. Conservation of this kind has been given for centuries to the Eiders of Norway and Iceland and has been prominently advocated, particularly by the late Dr. Charles Wendell Townsend, for the protection of Eiders in North America. It depends on the development of a widespread interest in the welfare of these Ducks through supervised gathering and commercialization of their valuable down.

A small industry of this kind began its activities on the north shore of the Gulf of St. Lawrence, in the eastern part of the Province of Que-

"The Eiders place . . . their nests in . . . sheltered situations . . ."

bec, in 1933. It was made possible by a coöperative agreement between the Department of the Interior, Dominion of Canada, and the appropriate authorities of the Province of Quebec. Its principal object was improved conservation of the American Eider Duck.

Suitable coastal islands on which numerous Eider Ducks nested along the north shore of the Gulf of St. Lawrence have been divided into numbered groups, each of which constitutes an eider-down production area. These islands are public lands, administered by the Department of Lands and Forests of the Province of Quebec. Any responsible resident of the region may lease from that department one or more of the areas thus delimited. Each lease is for the term of five years, with a nominal rental of two dollars a year. Each lessee whose rental is paid up to date is furnished by the Dominion Department of Mines and Resources, which has succeeded to the functions of the former Department of the Interior, with a permit under The Migratory Birds Convention Act, authorizing him to collect, possess, and sell eider-down taken from nests on his leased area. Officers of the Department of Mines and Resources inspect the leased areas from time to time to guard against possible abuses of the privileges given the lessees and also coöperate actively with the lessees to prevent poaching on their leased islands. While it is not a legal requirement that the cleaned eider-down be inspected for quality and cleanliness before it is marketed, in practice most of it is thus inspected, as the highest price regularly obtainable is offered only for

down that has passed inspection. Each lessee is required to report annually in writing to the Department of Mines and Resources the amount of cleaned eider-down that he has collected and what disposition he has made of it.

The demand for leases of eider-down production areas on these terms has been fairly good from the first and has improved in the last year or two as a result of the success of some of the operators and of the unsatisfactory condition of the local fishing industry, which is normally the chief source of livelihood in the region. At the present time (Nov. 1937) twenty-nine leases are in effect.

The Eiders that nest on these islands place most of their nests in somewhat sheltered situations, such as beneath alder bushes or stunted spruce or fir trees, which are often only two to three feet high, or beside a low cliff, a boulder, or a piece of driftwood, but in some cases they use exposed situations on open turf. The female Eiders make the nests and line them in part with soft gray down from their own bodies. Such materials as dead grass, moss, and leaves, if available at the nest-site, are also commonly used as nest-lining, and the proportion of down in the lining is very different in different nests.

The number of Eider nests in a single leased area varies at the present time from about seventy-five to six hundred or more. Such inequalities are, to a large extent, unavoidable. It is hoped, however, that the Eider populations in all the leased areas will increase in the course of time as a result of protection and of deliberate efforts to increase the number of suitable and attractive nest-sites. From thirty-five to forty nests are ordinarily necessary for the production of a pound of cleaned down.

The down is gathered from the nests by the lessees during the period of incubation of the eggs. The season in which such gathering takes place usually extends from the last week of May to the middle of July. Those lessees who are also commercial fishermen are normally able to gather most of the down from their areas before the beginning of active fishing operations.

The down should not be wet with rain, fog, or dew when it is collected. On coming to a nest, the gatherer takes the eggs from it and places them on the vegetation beside it. Most of the down in the nest is then picked up and placed in a bag. Care is exercised to gather the down as free from grass, twigs, moss and other foreign materials as possible. A little of the down, preferably the dirtiest, is not taken away, but is quickly molded into a pad and placed in the bottom of the nest. The eggs are then carefully replaced on this pad.

Down is usually collected from each nest on at least two occasions, a few days apart, during the incubation period. In some cases it has been found profitable to gather down from a nest three times. When the mother Duck has no more down for her nest she covers her eggs with leaves or dead grass, which seem to meet her requirements satisfactorily. Practically no down is gathered after the eggs have hatched.

The American Eider—backbone of a growing industry

The down is cleaned by a method developed in Iceland. This consists of warming and shaking the down on racks in the sun on two or three fine days, then heating it over a stove and rubbing it repeatedly and rather forcibly over a frame strung with taut parallel cords, then removing the few remaining bits of foreign material by hand. In some cases all members of the family coöperate in the cleaning. Some of the original lessees became discouraged over their failure to learn to clean the down quickly and abandoned the industry, but others, naturally more skilful in work of this type, have gained through practice the ability to clean the down without exceptional effort and have added to their leased areas.

The operators may keep their down or may dispose of it as they please. Some of it they retain and some they retail incidentally in small lots, but most of it they sell at wholesale rates to a trading company, just as they dispose of fish or other products of the region. The prices for cleaned down, which have remained unchanged since the inception of the industry, are four dollars a pound wholesale and five dollars a pound retail. There is a steady demand for the down at these prices. The cleaned down is used for filling such articles as quilts and sleeping-bags, for which it is generally considered to be the finest filling material available.

The amounts of cleaned eider-down marketed annually from the leased areas on the north shore of the Gulf of St. Lawrence, since the beginning of this supervised industry, are: 1933, about 25 pounds; 1934, about 35 pounds; 1935, 59 pounds plus; 1936, 81 pounds, 7¾ ounces.* More than twelve pounds of cleaned down has been gathered from one leased area in one summer.

The effect of this industry on the American Eider Duck and its conservation among the extensive archipelagoes that fringe the north shore of the Gulf of St. Lawrence has been almost wholly favorable. Among the thousands of nests from which down has been removed during the incubation period there have been found less than half a dozen in which the eggs subsequently failed to hatch. These presumably are the nests of birds that in some way met with disaster before incubation was completed. It is safe to conclude that careful handling of the eggs and gathering of down in the manner described seldom, if ever, causes the incubating Eider to desert her nest or prevents normal hatching of the young.

The lessees of the eider-down production areas realize that it is to their interest to have as many Eiders as possible nest on their leased islands, and they therefore seek to induce the Ducks to nest there by protecting their areas, in the nesting season, against poaching, including not only illegal shooting of the Eiders, gathering of their eggs, and unauthorized collecting of their down, but also illegal killing or molestation of other species on the area, because any shooting or trespassing on the islands might disturb the Eiders and tend to drive

*134 pounds, 8 ozs. in 1937.

them away. Thus the lessees become valuable allies of the game officers in protecting bird-life against unlawful destruction or disturbance anywhere in the leased areas. Although the protection thus given is not absolute, yet it is markedly better than what it would be practicable to provide without the help of the lessees, and the annual production of young Eiders in the region is increased in consequence.

Various changes that would presumably make the islands attractive to increased numbers of Eiders by increasing the number and variety of nest-sites available on them have been recommended to all the lessees, but they have not yet been put into effect.

So much has this system of supervised gathering of eider-down benefited the Eiders that in 1935 it was extended to include several of the bird sanctuaries that are maintained on this coast by the Dominion Government. Only the caretaker of a sanctuary can obtain permission to gather eider-down on that sanctuary, and before he can do so he must lease the sanctuary area for that purpose.

The growing eider-down industry on the north shore of the Gulf of St. Lawrence is thus proving to be a real force for conservation, while at the same time it prevents waste of a useful natural resource, provides added revenue for people whose possible sources of income are limited, and makes an especially suitable material available for coverings in which lightness, resiliency, and retention of warmth are the chief qualities desired. It is succeeding because it provides a sufficient economic incentive for allowing Eiders to live and multiply and because it combines private initiative and private control of definite areas with governmental supervision.

She'll make a coverlet, by and by

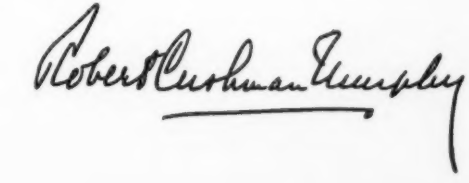
THE PRESIDENT'S PAGE

THE National Association of Audubon Societies is a membership corporation of more than nation-wide enrollment. Its members are the Association but, for the sake of practicality, control of policy is vested in a Board of 15 Directors, several of whom are elected at each annual meeting. Names of candidates to be voted upon next October have been submitted by the Nominating Committee of the membership and are published in this issue of BIRD-LORE, as required by the By-Laws. Other nominations may be proposed up to the moment of balloting.

Ideally, it would be desirable to have all sections of our continent represented on the Board, but the exigencies of bringing together a quorum at frequent intervals limit the selection of Directors mainly to men and women who reside at no great distance from national headquarters. One purpose of the very widely distributed Advisory Board is to compensate for the disadvantages of this necessity. At the same time, it might surprise many members to learn of the mileage that has been covered by out-of-town Directors throughout the years, on their trips to attend regular or special Board meetings in New York.

The responsibility of the Board of Directors is a very great one and it has, of course, grown in complexity with the functional and material development of the Association. In some respects our Society is unique as, for example, in the breadth of its conservational interests and in the extraordinarily wide latitude of individual opinion represented among its membership. Both of these attributes are well reflected by a list of the 59 Directors who have served since the foundation, for we find the names of nature-lovers, biological specialists, educators, lawmakers, sportsmen and others, all bound together by a common determination that the true beauty and joy of the out-of-doors must be saved and enhanced for future generations.

The Board assembles about eight times a year; the Executive Committee, whose actions must be reviewed by the Board, may meet even more often. The duties of numerous special committees still further increase this labor of love. Education, protection, threats of any sort against the principles of public welfare for which the Association stands, finances, sanctuaries and wardens, coöperation with kindred movements here and abroad—these and other matters take up vastly more than what might properly be termed the "spare time" of every Director. Maintaining the closest possible touch with the executive staff on the one hand, and with thought and opinion of the membership on the other, are among the ideals that the Board attempts to bring to realization. Independent inquiry also falls within its constant aim, and never a season passes in which one or more Directors do not journey far and wide, at their own expense, in order to inspect personally the ever-expanding work of the Association.

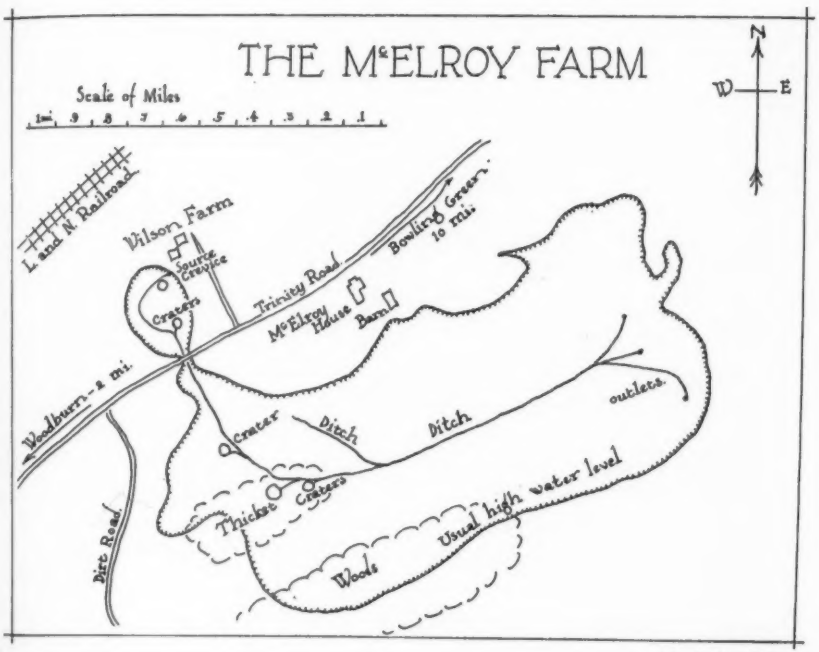


A Bird Paradise in a Cornfield

By **Gordon Wilson**
Western Kentucky State Teachers College

FIVE THOUSAND Ducks in flight over a flooded cornfield and within a quarter of a mile of a fine old southern mansion; Loons swimming and diving out in the deep water; a thousand Coots taking to the air with the sound of an approaching storm; bright-colored Western Willets and Black-bellied Plovers probing the mud, in company with Pectoral Sandpipers, Wilson's Snipes, and Greater and Lesser Yellow-legs; Blue Geese cropping barley just beyond the edge of the wet-weather lake; Black-crowned Night Herons suspended almost motionless above the fields; and everywhere a strange mixture of quacks and squawks and whistles of waterbirds! This is no pipe-dream of an ornithologist but a record of observations of a single day on the McElroy Farm, March 30, 1937. And such strange things could be duplicated many times by referring to the records I have made on this temporary lake, 10 miles south of Bowling Green, Ky.

There are few surface streams in the immediate vicinity of this farm, as it is in the cavernous limestone region about 35 miles south of Mammoth Cave. On this large farm there is a depression of some 300 acres, lying about 550 feet above sea-level, while the surrounding fields rise 30 to 40 feet higher. This 'sinkhole,' as such places are known locally, evidently is just above a large underground stream or lake. In most years there is no water in the depression until the first or middle of March. Then, especially after periods of heavy general rains, the water begins to flow from numerous crevices in the western end of the field and on the adjoining Wilson Farm. The opening I call the 'source crevice' is normally nothing more than a dry, rocky outcrop at the foot of a small hill behind the barns on the Wilson Farm. Near it are several funnel-shaped crevices that I call 'craters.' In the southwestern corner of the McElroy Farm there are several other craters, one of them being 30 feet in diameter and 15 feet deep. At the extreme southeastern corner of the farm and on an adjoining farm are three outlet sinks. Since these sinks cannot take away the water as fast as it rises early in the season, it spreads over the fields until it covers most or all of the 300-acre area. Then it slowly recedes and is usually gone by the middle or



Map by Ivan Wilson

last of May, in time for another corn crop.

This sinkhole has been planted in corn nearly every year since the farm was acquired in 1811 by the grandfather of the late Mr. C. U. McElroy. In a few years the water has remained so late that no corn could be planted. In spite of this one-crop plan, made necessary by the uncertainty of the field, there is no evidence of decreasing fertility. A yield of fifty to eighty bushels of corn to the acre is not unusual. Soon after the water begins to rise, algae cover the entire area. A careful study of the algae has revealed fifty species commonly found each year when the water rises. When the lake subsides, all the ground is covered with a thick layer of these minute plants. Thus the fertility is kept at a high level.

No one has yet been able to determine the source of this temporary lake, though its rise and fall are identical with those of a similar area on the Chaney Farm, a mile and a half to the northwest. Nearly every farm in southern Warren and northern Simpson counties has a small depression that becomes a pond in early spring, but only those on the McElroy and Chaney Farms attract large numbers of birds. In the very rainy winter of 1936–37 these temporary lakes blocked traffic on nearly every highway leading northward into Bowling Green, one of them for three weeks.

My acquaintance with the McElroy Farm dates from 1912,

Photo by Kelly Thompson

Looking southeast from near barn, March 30, 1937

when I spent a single day there with Mrs. McElroy and Miss Florence Ragland, two local botanists and ornithologists. I saw the lake again in 1922 but did not begin to make regular observation trips until 1927. From then until 1933 there was very little water, but since 1933 every season has brought excellent records, as the water has risen normally and even higher. I have made more than 150 field-trips there and have recorded 170 species of birds, 65 of them aquatic species. More than forty amateur and professional ornithologists have visited the lake with me and have called themselves the 'Liars' Club' because of the strange things to be observed that others can hardly believe. As I have found in a quarter of a century in the vicinity of Bowling Green only 36 species of water-birds aside from this farm, it is easy to see why I call it a bird paradise in a cornfield.

The 65 species of water-birds found on the farm are distributed as follows: Loons and Grebes, 4; Cormorants, 1; Herons and Bitterns, 7; Geese and Ducks, 23; Coots and Rails, 4; shore-birds, 21; Gulls and Terns, 5. The earliest observations in any season were made on January 30, 1937; the latest, September 10, 1935. In most years, however, they are confined to the months of March, April, and May. The heavy rainfall in January and February, 1937, raised the lake more than a foot above its previous high level, that

of 1884, and flooded nearly a thousand acres on the McElroy and adjoining farms.

Sources of food for 5000 to 10,000 birds are not at first apparent. In the late fall of 1926 the sudden rise of the water prevented the harvesting of nearly a thousand bushels of corn; this furnished an abundance of food for the Ducks and Geese. Ordinarily the corn is gathered long before the lake begins to rise. Barley and wheat fields supply food when they are flooded, as in 1937. Soon after the water rises there are millions of tadpoles and water insects. A species of semi-blind cave fish (*Forbesichthys papilliferus*) come up with the water, spawn in the craters, and return when the water sinks into the outlets. The various Herons frequent the craters when the water is low. Evidently many of the birds that spend the night on the water feed elsewhere during the day, for near sunset hundreds of shore-birds come in from all directions.

Let us take two contrasting days on the farm, one in the spring, the other in late summer. March 27, 1937, is a good representative spring day. I find in my records that I saw 24 species of water-birds between 2.30 and 5 in the afternoon and considerably more than 7000 individuals. Of these 24 species 11 were Ducks, with the Lesser Scaup, the Shoveller, the Pintail, and the Blue-winged Teal leading in this order. In the barley field to the northeast I

From almost same point, June 2, 1938

Photo by Kelly Thompson

found 3 Blue Geese, a species never recorded in this part of the state except on this farm in 1933 and 1937. A flock of 25 Canada Geese circled overhead, showing no more fear of us than did the guineas and chickens on the bank near-by. There were more than 1000 Coots on the pool near the source crevice. Several hundred shore-birds, chiefly Greater and Lesser Yellow-legs, probed in the mud or screamed overhead. All told, there were more than 5000 Ducks, many of which could not be identified because they were so far away and the water was disturbed by a brisk wind. Though the temperature was 30° F. and the spray froze on the dead weeds around the lake, we found the fascination of seeing so many birds too great to resist.

Strikingly different was August 3, 1935. The water was falling rapidly, and there were acres of mud flats, steaming in the sun. The thermometer stood at 98.5°, with no suggestion of a breeze. We recorded 19 species and about 800 individuals, quite a contrast to a good spring day, but such unusual finds: a dozen Great Blue Herons in the air at one time; 20 American Egrets and 60 Little Blue Herons in immature plumage on a 5-acre expanse of mud; a half hundred Semipalmated Plovers racing across the fields; 8 young Florida Gallinules swimming frantically to escape us, cheered on by their frightened parents; and overhead among more than 200 screaming Killdeer floated lazily 2 Common and 9 Black Terns!

Every part of the depression has its distinctive birds that return season after season. The thicket at the southwestern end is the place to see Herons, particularly the American Bittern and the Black-crowned and Yellow-crowned Night Herons. The pool on the Wilson Farm is the favorite feeding-ground for the Coots. The ditch, especially after the water has fallen considerably, is the haunt of the Florida Gallinule and the Sora Rail. In the surrounding fields of alfalfa, wheat, and barley can be found the Canada and Blue Geese, several species of Ducks, and the Upland Plover. The shore-birds prefer the shallows on the Wilson Farm and on the north side of the McElroy Farm.

Since normally the water is gone before summer or even late spring, there is little inducement offered water-birds to nest here. There are no islands that rise above the general level of the fields; there are no permanent marshy places with cattails or sawgrass. When the water remains into the summer, I find nests of Coots and Pied-billed Grebes along the banks of the ditch, where the ground is slightly higher than elsewhere. Since these banks are in very exposed places, the Crows usually destroy them before incubation is finished. In 1927 a sudden local rain raised the water over many nests and their eggs. In the summer of 1935 and again in 1937 I found immature Blue-winged Teal too small to fly. In 1927 I flushed from her nest on the bank of the ravine a female Blue-winged Teal and later the same year recorded a female Mallard and 6 downy young. The young of the Florida Gallinule were found only in 1935. Immature East-

Photo by A. F. Ganier

The big crater at the south end of the farm

ern Green and Black-crowned Night Herons led me to believe that these species nested on the farm, but I could never find the nests.

Of the *Raptores* I have found all the species common to central Kentucky and also the Southern Bald Eagle, the Duck Hawk, and the Osprey. On April 10, 1937, a Bald Eagle remained around the lake a whole afternoon until some bad-boy Crows saw him and gave chase. The Osprey appeared several times in 1927, 1935, and 1937, once with a companion. While a party of bird students were eating lunch near the source pool on April 25, 1937, a Duck Hawk swooped down within a few yards of them and caused almost as much excitement as among the shore-birds, Ducks, and Coots that were feeding there.

Most of the land-birds are typical of other areas in my territory. After the water has gone down, sometimes there are immense flocks of Bronzed Grackles, Red-wings, and Mourning Doves that feed in the fields. The Belted Kingfisher appears often, but I fear that he catches few of the cave fish, as they keep to the craters. The brilliant Prothonotary Warbler prospects at the edge of the lake but probably has not actually remained to nest. The Louisiana Water-Thrush appears regularly each season by the culvert where the stream passes under the road. Swallows, particularly the Barn Swallow, make the lake their rendezvous. On some days in the spring migration I have found all six of the Swallows that are recorded here: Barn, Bank, Cliff, Tree, Rough-winged, and Martin.

The sounds at the lake would delight any ornithologist. When Ducks quack in every key and Coots set up their chatter or Pied-billed Grebes *kow*, you may know that it is fairly early in the season. A little later the Sora wails like a frightened woman, the Bittern drives its stakes, and the shore-birds whistle. In the late summer there are all the discordant squawks of the Herons, the rattle of the Kingfisher, and the incessant noise of the Killdeer (rightly named *vociferus*). One could easily imagine himself in the coastal marshes of Louisiana when listening to the chorus of water-birds.

Numerous visitors to the farm have discussed the possibility of making the lake permanent. Though that would be highly desirable for ornithologists, the attempt to stop up the crevices would be endless. Besides, if the chief outlets were closed, the water in spring might flood hundreds of acres that are normally dry, since this whole section of the county is made up of a series of depressions like this one. Several attempts have been made to widen the outlets, in the hope that the water would disappear more rapidly when it starts down; these efforts thus far have not been very successful. Besides the numerous crevices that can be seen, there are many others covered with a thin layer of soil. In 1935 I saw a huge crevice form in the eastern end of the lake and become for days a major outlet. The nature of the cavernous limestone makes the formation of a permanent lake in this whole section very unlikely.

My experiences on the McElroy Farm have led me to hope for great things to be wrought in the near-by Mammoth Cave National Park. The surface rocks there are largely sandstone, so that ponds can be built without danger of their springing a leak. One such small pond, built by the CCC boys in 1937, is already attracting water-birds. As it is evident that water species would remain here all summer if there were permanent ponds, this ought to be a safe guide in the development of wild-life areas in the park. The most important lesson to be learned from the presence of this intermittent lake is that water-birds will find such an area quickly and that their presence in numbers is not necessarily an annual augmentation after years of usage by perhaps only a few at the beginning. This presages the success of artificial shallow lakes as refuges for transients and as breeding-grounds for many species that would remain, if proper environment were provided. Meanwhile the McElroy Farm remains for the ornithologists a large outdoor museum, inviting everybody to come to a place where the birds are protected and where they return every wet season in hordes.

Bird-Lore's Second Breeding-Bird Census

The second Breeding-Bird Census will be published in the next issue of BIRD-LORE. Contributors are asked to send their reports to the Editor as early as possible . . . and not later than August 20.

Nesting of the Goldfinch

By Alfred O. Gross

With illustrations by the Author

JULY and August, 1937, were hot months in Maine, but it was my good fortune during this season to enjoy the pleasant environment of a summer cottage located on Maquoit Bay. This bay is an extension of Casco Bay which reaches well into the jagged coast of Maine to a point within 3 miles of the village of Brunswick.

On July 4, with the aid of a pair of binoculars, I was following an interesting family of Loons when my attention was diverted to a pair of Goldfinches near the top of a dense growth of gray birches which fringe the shore. At that time no more notice was given these attractive visitors than to the hosts of other birds which frequented the vicinity.

The following morning the Goldfinches returned to the same treetops, and, when their visits were repeated on the third day, curiosity led me to seek the reason for their regular appearance at the site only a few yards away from my front door. A search revealed a partially constructed nest, lodged in a three-pronged fork of one of the slender, upright branches near the top of the birches. The birds were now coming frequently with nesting material. The female was the architect but the male invariably accompanied her, serving as guard and offering moral support and encouragement with his song. Sometimes the male brought nesting material but this was usually presented to his mate who packed it firmly into the growing walls of the structure. The work was not rushed but was done very deliberately. As the nest neared completion, visits were made only during the early morning and again in the hour or two preceding sunset. It was an easy task to record their visits since their arrival was always announced by their loud, cheerful notes, especially those of the male. On some of the visits during the latter stages of construction, no nesting material was brought but the nest was thoroughly inspected—the female, resting in the bowl, carefully shaped the structure and rearranged bits of vegetable fibers and catkins which made up the bulk of its composition. There was none of the thistle-down which so frequently is a part of the lining of a Goldfinch nest.

On July 10, six days after the partially built nest was discovered, the structure was completed. It was

The female takes her turn at the nest

a beautiful piece of nest architecture —4 inches wide and 2.5 inches deep, with a bowl 2.5 inches wide and 1.25 inches deep. The walls and bottom were so firm and so compact that they seemed tight enough to hold water. The birds were not seen to visit the vicinity on July 10, but on the following day were in evidence in the near-by birches where they went through an ardent courtship performance culminating in an act of copulation. The birds visited the nest several times, not to add or change material but for the apparent purpose of admiring their home.

A staging for a blind was constructed at this time, in order to facilitate both observations and the making of motion pictures. There were no eggs in the nest at noon on July 11, although the birds were frequently seen at the nesting-site during the morning. At 3 o'clock the female was on the nest while the male perched in the birches near-by. Both birds left at 4 o'clock and my subsequent visit revealed the first egg had been laid. The birds were about early the next morning and by 10 o'clock the second egg was in the nest. On the 13th there were three eggs at 9.30 A. M. On the 14th the fourth egg was laid between 8 and 9 A. M. The female was on the nest at noon but remained less than an hour. Neither of the birds was seen in the afternoon. On the 15th the fifth egg was laid during the morning. The female remained on the nest and was fed about every half hour by the attentive male. It was assumed at that time, since incubation had begun, that the set was complete, but to my surprise a sixth egg was laid by 8 o'clock the next day. With the

exception of the first, the eggs were laid during the morning. They were a delicate bluish white without any markings. The average weight was 1.42 grams and the average measurements were 17.51 by 12.20 millimeters.

On July 16 an iron-framed blind, covered with burlap, was placed on top of the staging. The nest was 28 feet above the ground and about 6 feet from the front of the blind. The foliage of the trees was so dense that several branches were removed or bent aside to insure an unobstructed view. In less than ten minutes after the blind was in position, the female returned, casually inspected the strange structure erected on her premises, and, without further hesitation, took her place on the nest. The instinct of incubation is strongly developed in the Goldfinch for neither my presence nor that of the blind seemed to discourage her. Many birds, placed under similar circumstances, might desert their nest.

The female did all of the incubating but she was regularly fed by the male. His coming was always announced by a series of clear, warbling notes. The moment the female heard her mate she assumed a characteristic pose which involved throwing her head back with the beak widely opened and rapidly fluttering her wings. This action seemed to initiate the feeding response of the male.

The male made his first visits to the nest about dawn and continued feeding the female at intervals until well after sunset. Except for short periods of time, the female remained on the nest throughout the day and night. While the male never took part in the incubation, he was strict in his discipline with his mate. In several instances, after the female had left the nest, he was seen to chase her vigorously until she returned to her duties. His stern disapproval of her leaving the nest was thus exhibited in no uncertain terms. During the course of the day, the eggs were turned on the average of once every two hours. She also shifted her position frequently so that she faced various directions with respect to the blind.

The first egg hatched on July 27 at 9 A. M., at noon there were two more young, and by 6 P. M. five were out. The sixth egg did not hatch until the following morning. Since incubation started on the 15th when there were five eggs, the incubation period was twelve days. The sixth egg, laid on the 16th, hatched on the 28th, also requiring twelve days' incubation and thus affording an excellent check on the incubation period.

During the first five or six days the female brooded the young during both day and night. The major part of the food fed to the young was delivered by the male, who also continued to feed the female during his frequent short visits to the nest. No insects were seen in the beaks of the adults at feeding-time, and all of the food delivered was a semi-digested milky pulp of certain seeds.

As the young grew older the female spent less time at the nest and accompanied the male in search of food. They would return to-

gether, both uttering notes, but those of the male were more varied and musical.

A violent gale swept across Maquoit Bay on the evening of August 5 and vented its fury on the fringe of gray birches along the shore. The tree swayed back and forth to such a degree that it seemed nothing less than a miracle that the heavily laden nest, supported only by the slender branch, could withstand the ordeal. The faithful mother clung desperately to the rim of the nest until the storm had passed. A more fragile nest would have been dislodged and destroyed.

After the young were ten days old they were not often brooded during the day unless it was raining or the weather cool. Whenever the notes of the approaching adults were heard, the young now responded by standing upright in the nest, stretching their necks, opening their mouths, and rapidly fluttering their wings in unison. The male was much more energetic than the female, and at every visit delivered food to each of the young, sometimes repeating the round of six mouths several times. The female seemed content to feed two or at most three or four young during any one visit. Several times the female was seen to stand on the rim of the nest opening her beak and twitching her wings precisely as the young did, in apparent anticipation of receiving food from her mate. Although the male fed her during the time of incubation and early life of the young, he did not respond to her desires at this time. The six, husky, clamoring young were quite sufficient to satisfy his instincts of feeding.

By the tenth day the birds had grown enormously and had attained an average length of 75 mm., an extent of 134 mm., a wing of 34 mm., and the tail-feathers had grown out to a length of 9 mm. Feathers on all tracts were at least partially unsheathed, thus offering sufficient protection and insulation to make brooding less necessary. Even at night the female did not cover them but roosted in the branches near-by. At such times the young huddled down in the bowl of the nest, their bodies producing enough heat to counteract the coolness of the night air.

On August 8, when the young were twelve days old, they had an average weight of 10 grams and had grown to a length of 89 mm., extent 159 mm., wing 44 mm., and tail 11 mm. The feathers were now unsheathed to such an extent that all of the naked parts were concealed. The yellow of the breast-feathers and the tones of olive and fuscous brown gave them an appearance of the completed juvenal plumage save for the tufts of down clinging to ends of some of the feathers. They had increased so much in size that the little bowl of the nest was scarcely large enough to contain them. When one youngster shifted its position, it necessitated a change on the part of every one of the six.

The time was fast arriving for the young to leave the nest, and on the next day, when they were thirteen days old, the first young ventured out and climbed up one of the slender branches supporting the

Fourteen days old

nest. He was soon followed by a second, and in the course of the next five hours all were out. By the time the last young had left, the first had attempted short flights from branch to branch. Two of the young, less able than their fellows, fell to the grasses and weeds below. Since they peeped loudly in response to the calls of the adults, it was easy to follow them in their wanderings. Fortunately, no cats or other enemies were present in the vicinity at the time. After a day, the young on the ground were able to regain positions in the trees well out of danger of terrestrial enemies.

The adults and young were seen in the neighborhood for more than a week, and made regular visits to the feeding-shelves and baths provided for them and other birds. I have a feeling of confidence that every one of the six young survived, and no doubt representatives of this family will be back on the shores of Maquoit Bay to nest this year.

More About Banded Herring Gulls

Between five and ten thousand Herring Gulls along the Atlantic coast will again be marked with brightly colored celluloid bands. Each colony has been given various combinations of blue, red, white, yellow, and black. By reporting the exact order of these bands on the birds' legs to *Gull Survey*, American Museum of Natural History, readers of BIRD-LORE will give great assistance in an interesting coöperative project, and they can also learn the year and the colony in which these birds were raised.

Aboriginal Conservators

By **Frank G. Speck**

DO uncivilized tribes know the virtues of conservation? The question would seem to require an answer in the negative in view of what is generally believed to represent the intelligence standard of peoples who have not reached the status of advanced civilization. Surprising though it may seem, the answer is, nevertheless, in the affirmative so far as the tribes of the eastern and northern forests of the continent are concerned. Contrary to the prevailing idea as respects native ownership of the land, the Algonkian Indians, from the Atlantic to the Great Lakes, carried on their hunting in restricted, family hunting territories descending from generation to generation in the male line. It was in these family tracts that the supply of game animals was maintained by deliberate systems of rotation in hunting and gathering, and defended by the family groups as a heritage from some remote time when the country had been given to their ancestors by the Creator. Before glancing at some details of the principles operating in the protection of native wild life from extermination by over-hunting, let us consider what an eminent student of law has said regarding the nature of property itself.

"For purposes of social theory property is to be conceived in terms of the control of man over things. Man needs food to eat, implements to procure it, land to work upon. . . That he may supply his needs at all he must at least temporarily control . . . the spot on which he is working. But that this temporary control or possession may become property, certain further conditions are essential. His possession must in the first place be recognized by others, *i.e.*, it must be of the nature of a right. . . With regard to things of a permanent nature his right must also have a certain permanence. He must be able to count on the use of the thing. His right . . . must be respected in his absence. Thirdly, his control must be exclusive," (Hobhouse, in *Property, Its Duties and Rights*, New York, 1922, p. 6). Hence, the tenure of land among the Indians of the Atlantic forests and eastern Canada conforms to something like "naked possession"—the maintenance of a supply of animal and vegetable life, methods of insuring its propagation to provide sources of life for posterity, the permanent family residence within well-known and oftentimes blazed property boundaries, and resentment against trespass by the family groups sur-

rounding them who possessed districts of their own. And withal, the remarkably complete knowledge of breeding habits, the food and protective requirements of animals in the territory, are striking features of the 'science' which these aborigines applied to the conservation of their resources. The student of primitive institutions finds in various parts of the world similar regulations invented and practiced for the same purposes, nearly always in regions where mankind lived in a purely hunting stage of culture and whose other characteristics were so simple, possibly even initial, as to entitle them to classification as 'savages.' This remark applies to the primitive hunting peoples of northeastern Asia, Australia, parts of the Pacific, extreme South Africa, and Fuegia. It would seem that in the early stages of human cultural growth we have evidence of an understanding of the need of sustaining the balance of nature. Those tribes of mankind with limited material equipment had achieved a balance with nature which the more advanced 'civilized' groups have lost, with their phenomenal increase of material equipment.

Prehistoric Censusing

Let us, however, glance at the conditions of wild-life conservation as we discover them among the Indians with whom the present paper proposes to treat. Quoting from an article published some years ago, I might summarize the circumstances as follows:

"Economically these territories were regulated in a wise and interesting manner. The game was kept account of very closely, so that the proprietors knew about how abundant each kind of animal was, and hence could regulate the killing so as not to deplete the stock." (Speck, Memoir 70, Canadian Geological Survey, Ottawa, 1915, p. 5.) The hunting and gathering which furnished the food supply of these people was by no means a hit-or-miss random search. Their dependence upon limited resources in limited territories required provision for themselves and their descendants, and they took stock of their resources. They knew in some detail what the supply of each resource was: deer, moose, beaver, fur-bearers, edible birds, berries, roots, trees, wild grasses. They knew the districts where each was to be found when wanted and, roughly, in what quantities. These remarks demonstrate the lines of aboriginal thought in the direction of economic conservation in a manner not unlike what administrators conceive to be the necessary means for preserving the balance of nature in behalf of protection against the depletion of game supply, forest cover, vegetable resources, and water-shed safeguarding.

Respect for Wild Life

Aside from these material considerations, we are forced to realize the existence of aesthetic appreciation of the meaning of nature at large among Indians in the hunting level. The native attitude toward wild life, both plant and animal in all forms, is one which takes stock

of religious associations, even governing the lives of individuals and groups. Various families and clans among these peoples held themselves in special relationships to groups of animals, associations which have earned the name of 'totemism.' It would be futile here to discuss what arguments this term has provoked among sociologists, but we may admit that among these tribes no individual could feel himself to be free from certain obligations owed to particular animals, oftentimes to less active forms of life such as trees and plants. The animal world, in their view, enjoyed the right to exist in close association with human beings. Through the coöperation of human, animal, and plant life, the will of the supreme being, the Creator, was carried out. This teaching permitted no wasteful or arbitrary destruction of life in any form. In taking animals for food or for skin, the survivors, as breeding resources, were constantly considered, and the life thus taken was atoned for by rituals of address, apologizing in sympathetic phrases for their death. They were thanked for the sacrifice they made to man and death-rites were performed for them with rituals of thanksgiving. Similar rulings were applied to the gathering of plant life and trees when taken for medicine, firewood or bark. The recording, presentation and study of these abundant rituals is the task of ethnologists now working among the various tribes. Even plants when gathered for food or medicine were approached with reverence and pulled up with discretion through consideration of their own welfare, not only man's. To tear up plants by the roots in quantities is to the Eastern aborigines like massacre; to separate two pipsissewa plants growing near each other is, for instance, like disrupting the family unit of a small and friendly circle by the slaying of parent or child. I have even heard that when one such plant is removed, the other is discovered wilted and dead the next day, or the survivor may have moved off to join another mate. Numerous regulations govern the taking and killing of plant and animal life. With these people no act of this sort is profane, hunting is not war upon the animals, not a slaughter for food or profit, but a *holy occupation*.

Primitive Anthropomorphizing

All in all, such refinements in attitudes toward nature may seem amazing to civilized man whose point of view toward natural life in all forms has departed so far from a state of harmony with its existence. The liberal naturalist of today would find himself in thorough accord with such 'savages,' who see in the world about them the coöperating forces which make life smooth and full. It did not require a Thoreau of less than a century ago to reawaken the sense of nature appreciation in the minds of Eastern Indians. Ages of harmonious coliving with the life of the forests, swamps and ravines of the eastern woodland, left them the sense to accord to all forms of life the right

to live, to propagate and fulfill their own destinies, as man himself claims it. This assertion is made with no degree of exaggeration. It is rather understated, for to treat its evidence will require volumes on ethnology, some of which are now in course of preparation. One could separate the materialistic purposes of conservation among the Eastern and Northern Indians from spiritual and imaginative aspects of communion with life and discover the predominance of the latter in native thought on nature. Noyes, Kilmer, and Isaiah would find their poetical creations, which visualize trees as sentient beings, exceeded by 'savage' poets in the northern forests, who sing of the Creator as "combing the hair of his children as would a father, when the trees are seen bending beneath the force of the wind," of the vegetation on earth being "hair on the body of mother earth who gives them their life," of the trees "praying to the Creator in their own tongue when the wind causes the leaves to sigh and rustle." Such phrases bring to mind the Old Testament animations in describing trees as clapping their hands with joy, as letting "the sea roar and the fields be joyful, then shall all the trees of the woods rejoice before the Lord." And we may not forget Kilmer's reference to the tree that "lifts her leafy arms to pray." And again Noyes (The Loom of Years): "In the weary cry of the wind and the whisper of flower and tree."

So why do we think of ourselves as teachers of a higher order of nature-aesthetics in a newer, but historically merely a rediscovered, attitude toward life of the wild, and Nature in her totality, as being a solace, an entity with a soul, perhaps a God? We may be loath to admit that economic interests dominate the European attitude toward creations on earth, but our anxiety over questions of wealth still rules our minds and decisions. The classical epos, "Man is one world and has another to attend him," means one thing to the economic conservator and another to the pure naturalist and his brother-in-creed, the aborigine of the eastern forests.

The Frontispiece

The frontispiece in this issue is from a water-color made by Roger T. Peterson especially for *Beautiful Birds of the Southern Audubon Sanctuaries*, by Alexander Sprunt, Jr., recently issued by the National Association of Audubon Societies. The bird it portrays, the Limpkin (*Aramus p. pictus*), is one of the strangest of the creatures that help to make Florida one of the most fascinating places in America for the naturalist. The Limpkin looks like a cross between a Crane and a Rail, and it is between these two families that the systematists have placed it. In its behavior it is Rail-like; it lives in reedy, fresh-water swamps where it feeds solely on the snail *Ampullaria*. Its weird variety of calls, strangely human in timbre and pitch, has given it a number of names such as 'Cry-baby Bird.' On the wing it is Rail-like, but it carries the seeming debility of these birds to an exaggerated degree. As it flies a short distance from an intruder, it looks just too tired to raise its wings for another flap, and gives the impression of actually falling out of the air, at each beat, and of barely catching itself. It has apparently increased in numbers during the past decade and its future should be secure—if drainage ditches can be kept from its haunts.—W. V.

Fig 1

BIRD NAMER
FRONT VIEW

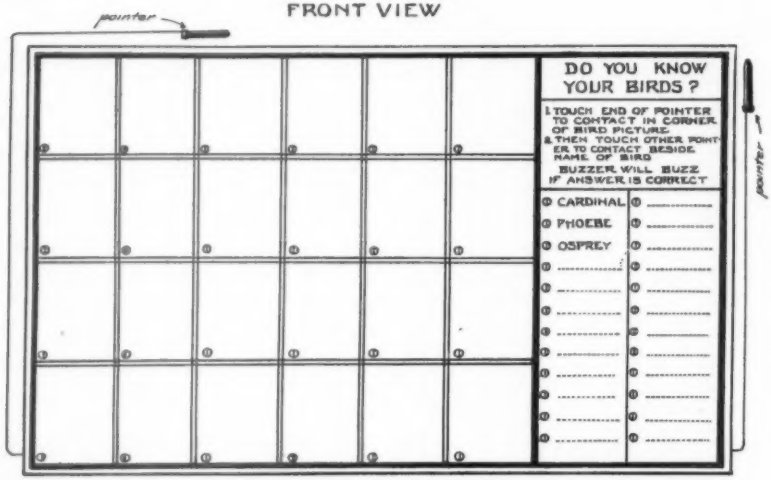
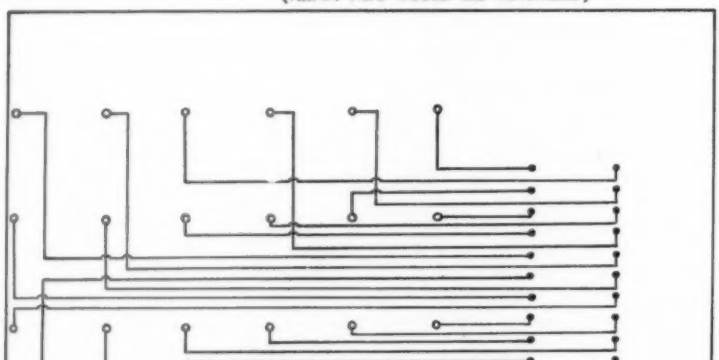
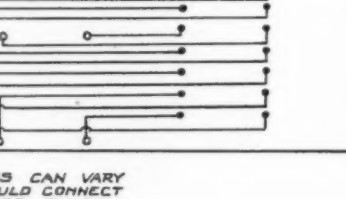

pointer
DO YOU KNOW YOUR BIRDS ?
1. TOUCH END OF POINTER TO CONTACT IN CORNER OF BIRD PICTURE
2. THEN TOUCH OTHER POINTER TO CONTACT BESIDE NAME OF BIRD
BUZZER WILL BUZZ IF ANSWER IS CORRECT
CARDINAL
PHOEBE
OSPREY
pointer

Fig 2

DIAGRAM OF CONNECTIONS
(REAR VIEW WOULD BE REVERSED)



THE ARRANGEMENT OF CONNECTIONS CAN VARY AS DESIRED — IN SHORT, WIRE SHOULD CONNECT NAME OF BIRD WITH PROPER PICTURE, THUS: —



Electric Nature Games

By **Roger T. Peterson**

THERE is a familiar children's game called "Electrical Questioner," which is sold in most of the toy shops. On a large card is a series of colored pictures with the names of its subjects in jumbled order at the bottom. The card, which is perforated, is fitted over a series of metal contact points, one point at the bottom of each picture, and one beside each name. A metal-pointed feeler is contacted with one of the pictures, and the other feeler touched to the name. If the answer is correct, a loud, sudden buzz comes forth from a concealed buzzer.

These games are usually fitted out with a number of cards on various subjects—birds, mammals, flowers, etc., which can be changed at will. The principle on which they operate is essentially the same as that used in the electric nature charts which have been in such long use at the Trailside Museum in Bear Mountain Park, the Pleasant Valley Sanctuary at Lenox, Mass., and the Cleveland Museum of Natural History. The game element, the noise, and the lights of these gadgets, have made them immensely popular with children. Their proven value as a method of nature instruction has led to their adoption in scores of camps and schools.

Bird Namer

This seems to be the most popular of all the electric charts and most closely approximates the electric questioners of the toy shops. The plan can be adapted to mammals, flowers, insects, leaves, twigs, minerals, and scores of other subjects.

Materials.

Large sheet of cardboard, beaver board, or pressed wood.

Pictures of birds (cut-outs, drawings, or Audubon Bird Cards).

Labels with names of birds.

Contact points (brass bolts or 1-inch brass paper fasteners).

One buzzer, door-bell, or flashlight bulb.

One roll of insulated bell-wire.

Two door-bell batteries.

Six feet of flexible strand wire.

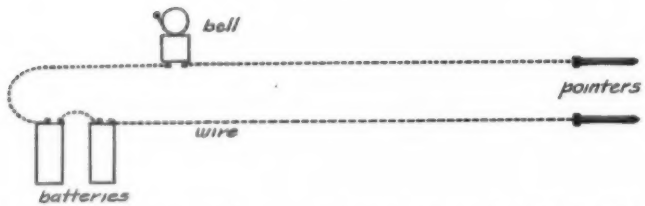
Two short pieces of brass rod.

One roll friction tape.

Procedure.

Plan the chart similarly to Figure 1. The number of birds, ten or one hundred, does not matter. Too small a number makes it too easy to learn the correct names by location rather than by identification. If the pictures and labels are removable, they can be changed when all the birds are learned and interest wanes. 'Art corners' or thumb tacks can be used for this.

Fig 3 Battery Connections for Bird Namer



Drill holes in the board and insert the contact points. These can be either one-inch brass paper fasteners or brass bolts. The back of the board is then wired with insulated bell-wire—a strand between each picture and its correct name (Fig. 2). Connect the outside pole of one battery with the inside pole of the other. To the free pole of one of the batteries, fasten a long piece of flexible wire. Attach a piece of brass rod to the end of the wire and bind with friction tape. Wire the free pole of the other battery to the bell or electric light and then run another wire from the bell or light to the other brass pointer (Fig. 3). If the job has been properly done the chart is now ready.

An electric bird chart similar to the one above was recently described in *The Guardian*, the official organ of the leaders of the Camp Fire Girls. This was built by a Camp Fire Girl and her guardian as part of a "Birthday Project." It differed mainly in having the names at the bottom of the board, instead of at the side. The pictures, fifty of them, were mounted on four-ply wood for the sake of sturdiness. It was given to the camp when completed. The dimensions were 42 inches wide by 40 inches high when open for use, but only 21 inches wide when folded on small hinges down the center. This ability to fold not only made it more convenient to store but also protected the pictures and labels when not in use.

Animal Kingdom Highways

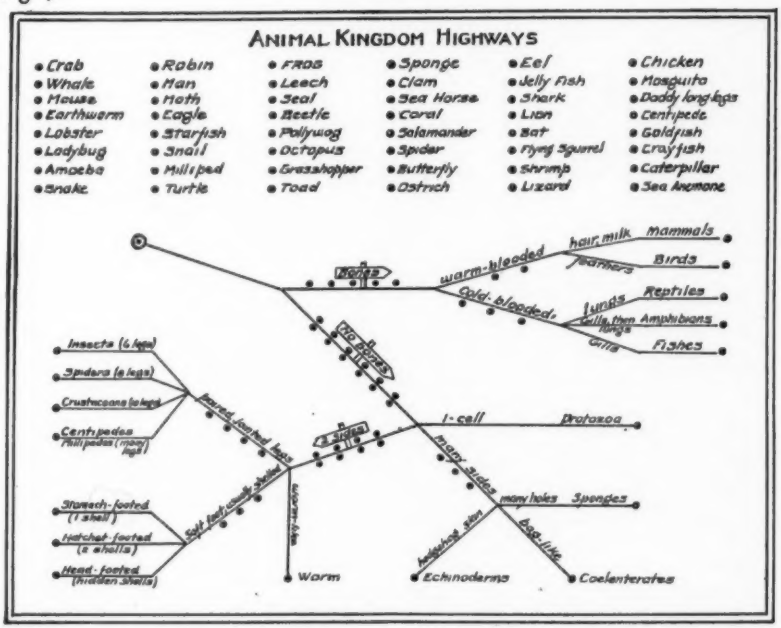
This chart has been very popular at the Audubon Nature Camp where one was prepared by the students. The face of the chart (Fig. 4) explains itself quite adequately. The names of the animals at the top of the board can be printed on stiff labels and fastened with rubber cement or thumb tacks so as to be readily removable when the novelty wears off. At the Audubon Camp, each name at the head of the board was followed by a little drawing of the animal. To add a lighter touch, these little pictures can be treated humorously; for example, after mouse, a picture of Mickey Mouse; after chicken, a baby chick just out of the egg, etc. These pictures are not at all necessary, but help to enliven a chart that otherwise would look more forbidding.

Materials

Large sheet of cardboard or pressed wood.

Labels with names of animals.

Fig 4



Contact points (one-inch brass paper fasteners or brass bolts).

One buzzer or flashlight bulb.

One roll of insulated bell-wire.

Two door-bell batteries.

Six feet of flexible strand wire.

Two short pieces of brass rod.

One roll of friction tape.

Procedure

Plan the face of the chart similarly to Fig. 4. Drill holes in the board, and insert the contact points as indicated. The back of the board is wired similarly to that of the Bird Namer with this exception: the insulated bell-wire, instead of being connected directly from "Crab" to "Crustaceans," must first traverse the highway. It first goes to one of the twelve contact points on the road "No Bones," from there to one of the eight contacts on the road "Two Sides," then to one of the four contacts on "Paired, Jointed Legs," and from there to "Crustaceans."

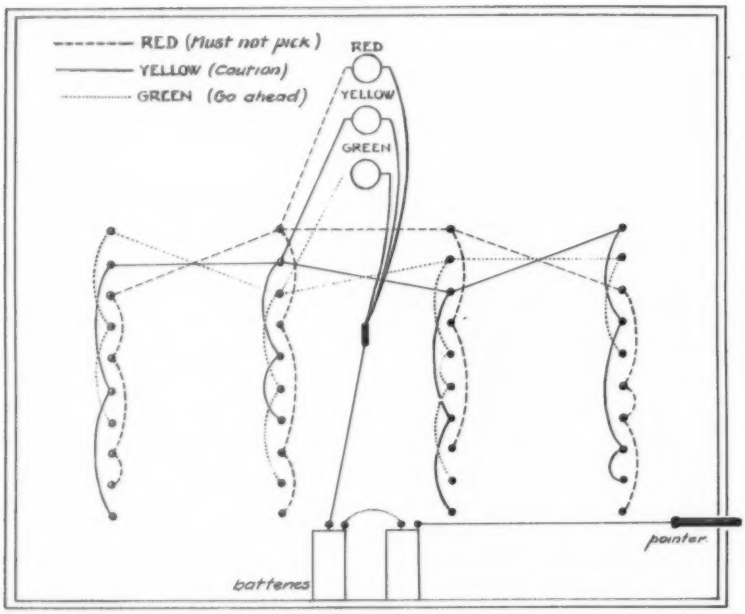
The battery connections are the same as for the Bird Namer; connect the outside pole of one battery with the inside pole of the other. To the free pole of one of the batteries, fasten a long piece of flexible wire. Attach a piece of brass rod to the end of the wire and bind with friction tape. Wire the free pole of the other battery to the bell or electric light and then run another wire from the bell or light to the other brass pointer (Fig. 3).

WILD FLOWER CHART

The Conservation Committee of the Garden Clubs of America, 598 Madison Avenue, New York City, distributes free of charge a list of

Fig 5

WILD FLOWER CHART
(DIAGRAM OF CONNECTIONS)



flowers, showing those that should not be picked, those that should be picked with caution, and those that may be freely picked.

These data have been worked very effectively into a traffic-light chart. A red light means "Stop! Do not pick." The yellow, "Pick with caution"; the green, "Go ahead!" This chart, which for years has been a favorite at the Pleasant Valley Bird and Wild Flower Sanctuary, at Lenox, Mass., has recently been described in detail by Miss Dorothy Treat, in an enclosure for the Executives' Bulletin of the Camp Fire Girls. The diagram of connections (Fig. 5) and the plans are adapted from Miss Treat's instructions.

Materials

Large sheet of cardboard or pressed wood.

Pictures of flowers (cut-outs or drawings).

Contact points (one-inch brass paper fasteners or brass bolts).

One roll insulated bell-wire.

Two door-bell batteries.

Three Christmas tree light sockets.

Three flashlight bulbs which will operate with the batteries.

One piece each of red, yellow, and green cellophane to cover the lights.

Four feet of flexible strand wire.

One short piece of brass rod.

One roll of friction tape.

Procedure

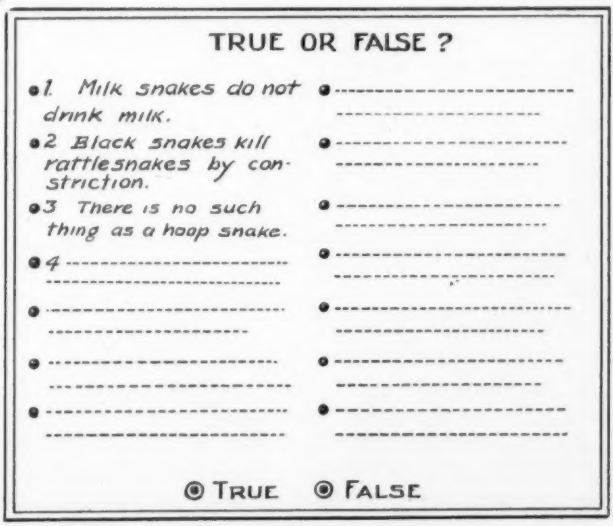
From the list of flowers furnished by the Garden Clubs of America, choose forty or fifty which are found in your neighborhood. Draw or find pictures of these flowers. Use ten-cent-store flower guides or small pictures, obtainable from the Wildflower Preservation Society, 3720 Oliver Street, Washington, D. C. Mix these up well and arrange in four vertical rows, so that some of each type are in every row. Print the names of the flowers below the pictures. Give the chart a title, and arrange three light sockets below it. Insert the sockets through holes in the board. At the left of each picture drill a hole and insert the contact points. With insulated bell-wire, join together all of the contact points in the first row representing *red* (*must not pick*). Do the same for *yellow* and then for *green*. Do the same in all four rows. Join a red contact in row one with a red contact in row two, and from there to a red contact in rows three and four. Do the same for yellow and then for green. Connect the nearest red contact to one of the wires of the red socket. Connect the nearest yellow contact to the yellow socket, and the nearest green one to the green socket. Connect the outside pole of one battery with the inside pole of the other. Connect the free middle pole of the batteries to the free wires on each of the three lights. To the remaining free pole of the batteries, fasten a long piece of flexible wire. Attach a piece of brass rod to the end of the wire and bind with friction tape.

THE POSSIBILITIES ARE ALMOST LIMITLESS

True or False Chart

Mr. William Carr informs us that the "True or False Chart," shown

Fig 6


TRUE OR FALSE ?
1. Milk snakes do not drink milk.
2 Black snakes kill rattlesnakes by constriction.
3 There is no such thing as a hoop snake.
4
TRUE
FALSE

in Fig. 6, has excited much interest at the Trailside Museum over which he presides in Bear Mountain Park. The plan of wiring is very similar to that of the Bird Namer.

Camp Chart

A camp near Cleveland plans to make an electric chart showing interesting things to be found around their camp. The chart will contain a large pictorial map of the camp-site, with contact buttons wherever some interesting nest, tree, flower, spring, rock formation, etc., is to be found. If you want to find the cardinal flowers, for instance, put one feeler by the name of the cardinal flower, and hunt over the map until the light flashes, or the bell rings, and you will know where to go and find it.

Nest Chart

A Bird Nest Chart can contain a composite picture of nesting-sites on the lower, and series of bird pictures on the upper half of the board.

Habitat Chart

Similarly a Habitat Chart can be very effective—with pictures of woodlands, fields, marshes, and various other environments on the lower half of the board and birds on the upper. A wire will connect the marsh scene with the Red-wing; a shore scene with the Spotted Sandpiper. Several birds can be wired to the same habitat.

Charts with Many Lights

Another idea for a nesting chart could be worked out in a place like the Audubon Nature Camp in Maine.

A map of the area, with its bays and islands, could be studded with small electric lights on the islands where breeding colonies of seabirds occur. When touched, the contact beside a picture of a Herring Gull, at the bottom, would light up the islands on which the Herring Gulls nest. The spots where Cormorants, Terns, and Herons breed would be indicated similarly. This chart would involve more expense and a more complicated system of wiring.

For publicity purposes, the Audubon Association had made a large, many-light chart. On a map of the United States, red lights indicate where Audubon wardens are on duty throughout the year; white lights where they are on seasonal duty.

For Further Reference

THE HOW TO MAKE IT SERIES, by Kenneth M. Lewis and John B. Knight. Junior Natural History Magazine (starting with the issue of July, 1938). American Museum of Natural History.

PROJECT MAKING IN ELEMENTARY SCIENCE, by Grace Fisher Ramsey, School Service Series, American Museum of Natural History.

NATURE GAMES WITH ELECTRIC CHARTS, *The Guardian*, February, 1938. Camp Fire Girls.

ELECTRIC WILD FLOWER CHART, by Dorothy Treat. Camp Fire Girls.

If schools, camps, or individuals wish to own handsomely made electric charts of any of the above types, but are not able to make them themselves, they can be ordered from the Service Department of the National Association of Audubon Societies. Upon description of what is wanted, arrangements can be made with a craftsman who has constructed numerous such games for exhibition purposes, and prices will be quoted.

Ripples from the Loosestrife

By **Merle V. Keith**

Illustrated by the Author

EARLY in March, when the sun had almost triumphed over the snow, the numerous ponds throughout the woods began to show puddles atop the ice. The largest of these ponds was shaped like an hour-glass. Its banks of black earth seemed to intensify the sun's rays, so that around the shore the ice had been eaten away for several feet, showing the dark water beneath.

A nature trail had been built around this body of water, and I had designed as well as supervised the construction of it. On this day (March 6) I had three men placing a large locust log, about 2 feet in diameter, with all branches attached in the center of a clump of button-ball bushes, which grew out in the pond. This was being accomplished by cutting through the ice and then, with a post-hole-digger, excavating a hole in the pond bottom. The sharpened post was soon on its way downward. With three of us steadying the pole, the fourth climbed on top and with a sledge-hammer drove it firmly into the mud.

This done, a strange-looking nest-box was lifted in place on the top. This was made from the hollow trunk of an old apple tree. It was about 3 feet high with a roof made from another section of the same tree. A hole 6 inches in diameter had been cut just a little below the roof for an entrance. It fitted nicely on the locust and looked like a continuation of the post.

In a short time everything was secured, and, as the finishing touches were being applied, the sun cast two shadows flying swiftly over the ice. I looked up and said: "Well, boys, there they are! Those two birds are Wood Ducks; they are the reason I wanted this job done today."

These birds usually build their nest in a hollow tree and we hoped that this day's effort would be a sign of welcome to them. It is one thing to know that Wood Ducks frequent a place, but quite another to entice them to nest there in man-made nest-boxes. In order to make sure that there were plenty of invitations, seven more houses of various design were placed at different heights around three of the ponds in the vicinity. Some domesticated Mallards were introduced to relieve suspicion; they were fed twice every day, and soon both Black and Wood Ducks were accepting my overtures of hospitality.

With all these possible nesting-houses, designed for the use of

Wood Ducks and placed in likely spots, I felt like a small boy who, having hung up his stocking, wonders whether there is a Santa Claus or not.

The male Summer or Wood Duck is the most gorgeously colored of any of our American Ducks. His head, with its beautiful flowing crest, is iridescent with blue, purple, and green predominating, these colors being accentuated with a few white dashes. The eyelid is a brilliant red, and on the dainty bill is a splash of the same red. The rest of the bird is just as showy, and in harmony with the head, and so we have a masterpiece.

The female is very simply garbed in grays and browns, with a white breast and white spectacles around the eyes. Her crest is not as pronounced as her mate's and reminds one of a girl with a 'boyish bob' which needs trimming.

While waiting for my prospective tenants to choose a home, I had many opportunities to pry into their private affairs. Here are a few of my observations:

One day I was sitting on a hill overlooking a pond which was filled with luxuriant vegetation. This was an ideal spot for home-seeking water-fowl. At the farther end some open water was visible. I noticed a movement there and at the same time heard the voices of some boys who were coming toward me. I focused the glasses on the spot where I had seen motion and there were two pairs of Wood Ducks. They swam for the shore and sneaked up a path into the thick underbrush to 'lay low.' As soon as the boys had passed, they came back. This shows one way they have of keeping out of sight.

One would think that such brilliant, outstanding, colorful plumage would make its owner conspicuous, but not so; one day I saw what I thought was the blossom of a skunk cabbage, when suddenly it turned into a male Wood Duck. Many times I have seen them stand

absolutely motionless in plain sight and almost escape my notice. The only reasons I saw them are because my eyes are trained, and I was on the lookout for them. The shining feathers seem to reflect the colors around them, helping them to melt into the scenery.

Another habit I have noticed while watching them is that they fly up and appear to be leaving for parts unknown through the trees, but the first limb that suits they alight on as easily as some of the smaller birds would. There they sit and allow the one who has frightened them to pass directly underneath without taking alarm. They seem to understand that no one would expect to see a respectable Duck perching in a tree.

I had a blind built on the wooded shore of the hour-glass pond. This was protected by a roof and covered with brush to camouflage it as much as possible. It served as a shelter and also as a hiding-place for people interested in bird-study. The lone furnishing was a park bench. When I had any writing to do I sat here with my books and I could see without being seen.

I was sitting here on May 20 wondering what possessed some of the boys who traveled my trail. They had destroyed three of the Mallards' nests and had tried to catch a mother Black Duck's brood. The pond was about one-quarter filled with plants of water loosestrife which had been left there because they afforded protection as well as nesting-sites for the smaller birds. Underneath these plants were little alley-ways which made the place

seem like a miniature Venice.

Ripples were circling out from one of these byways, a small gray Duck swam into view, its head swinging forward and backward as though a pendulum below the water controlled it. There was a white patch around its eye; it was a female Wood Duck. She swam across the open water in front of the blind, uttering a faint, plaintive *quer-quer-quer—quer quer*. Something was after her. What could it be? I brought the binoculars into play. Some tiny fluffy ducklings were following directly in her wake. One—two—three—four—five; still they kept coming until at last there were twelve of the cutest little creatures ever seen. How proud she looked! No wonder her head moved so gracefully. It was Mother's Day for her. She was also conducting a premature Memorial Day parade past my reviewing stand.

Now they began to take an interest in life, breaking ranks and skittering here and there, picking up insects off the surface of the water. The duckweed which was

plentiful seemed to interest them, too.

I was so intent on watching that I forgot about keeping out of sight. The mother saw me; she gave the alarm and tried with all her wiles to attract my attention, but I watched the babies. They headed back for the sheltering loosestrife in fast time, some ducking under water only to pop up 15 feet ahead. They were as good at diving and swimming under water as 'Hell-divers.'

What a glorious day for me! I had hung up, not a stocking but a large, clumsy nest-box, and there must have been a Santa Claus.

NEW YORK WATER-FOWL REGULATIONS CONFORM TO FEDERAL

On recommendation of the New York State Conservation Department, and with the full support of the National Association of Audubon Societies, the legislature of the State of New York at its session last March enacted, and the Governor signed, a law constituting Chapter 546 of the Laws of 1938, reading in part as follows:

No person shall take, possess, sell, transport or possess for sale or transportation any migratory game-birds except as herein provided.

The department shall by order make regulations in relation to migratory game-birds to conform with Federal regulations made under Authority of the Migratory Bird Treaty Act.

At the Third North American Wildlife Conference held in Baltimore in February, much emphasis was placed by various speakers on the importance of seeking conformity of state water-fowl hunting regulations with those issued annually by the Federal Government. New York becomes apparently the fifteenth state of the Union to establish such conformity. The other fourteen states are as follows:

Maine	New Hampshire	Massachusetts
New Jersey	Pennsylvania	Virginia
South Carolina	Mississippi	Louisiana
Indiana	Minnesota	Oklahoma
Colorado	Idaho	

It is to be hoped that our affiliated societies and individual members in those states where the regulations do not as yet conform with the Federal may wish to make known to their state conservation, or fish and game departments, as well as to their governor and legislators, their support of legislation which would establish such conformity.

Charles A. Urner Dies

Ornithology and conservation suffered a shocking loss when, on June 22, Mr. Charles Anderson Urner, of Elizabeth, N. J., died suddenly and unexpectedly at the age of 56. For many years Mr. Urner had been counselor to, and friend of, the National Association of Audubon Societies, and there is no member of its ornithological staff who has not, at some time, profited by his frank and kindly advice, based on his large knowledge of the living bird. At the time of his death, Mr. Urner was 'Season' editor for the New York Region, and for a long time chairman of the Association's Waterfowl Committee.

A former president of the Linnaean Society of New York, and founder of the New Jersey Field Ornithologists' Club, his vigorous imagination, his capacity for leadership, his intimate acquaintance with eastern birds, his unfailing generosity in time and knowledge, made him for many years a leading figure in the ornithology of two states. He possessed a powerful and wide-ranging mind, and brought to the study and enjoyment of birds the same zest that characterized all his activities. He was the author of a number of published papers, all of professional caliber; altogether, he was the highest type of amateur ornithologist, and his numerous friends must live with an unrelieved sense of loss as long as their memories of him endure.—W. V.

Bird-Lore

A Bi-Monthly Magazine devoted to the Study and Protection of Birds and Mammals

Edited by WILLIAM VOGT
Contributing Editor, FRANK M. CHAPMAN

Published by the
National Association of Audubon Societies

Vol. XL Published August 1, 1938 No. 4

BIRD-LORE'S MOTTO
A Bird in the Bush Is Worth Two in the Hand

THE new mosquito-control project requirements of the Works Progress Administration are cause for congratulation both of that organization and of wild-life interests. The former is to be commended for setting up nearly ideal standards with which political subdivisions must comply before Federal moneys become available for mosquito-control work—and the conservationists for bringing about the establishment of such standards. Since early mosquito-control projects of WPA were disastrously destructive of wild life, and since no one raised any objections to them except conservationists—led by the National Association of Audubon Societies—it seems clear that the credit for this reform belongs to the conservationists.

The new requirements, by implication, underscore the weaknesses of earlier Federal-financed mosquito-control work: lack of a scientific basis for control procedure; unnecessary drainage; unnecessary destruction of cover; lack of adequate maintenance—and lack of necessity, in many cases, for any control at all! It is rare, indeed, to find a local mosquito-control commission that is concentrating its efforts on a known species in known numbers; such a program would require an unwonted degree of technical skill.

The effectiveness of WPA requirements will depend, to a considerable extent, on matters of definition. What, for example, constitutes "a certification from a responsible permanent agency assuring maintenance and operation . . ."? Except in and about large cities, and in populous suburban areas, the cost of maintenance has, in the past, been so high that it has often been neglected. The mosquito-control men, themselves, constantly bewail this fact. Since taxpayers' funds have been used for original installations of drainage systems, and since these systems have been extended beyond the limits taxpayers feel they can afford, many of the existing mosquito-control organizations obviously, by their own admissions, do not fall within the category of a "responsible permanent agency assuring maintenance and operation." If the mosquito-control commissions cannot meet the requirements, who can or will? We are informed that the director of mosquito control in an eastern state has been hunting for months for some "responsible permanent agency" to assume responsibility for his project. Whether or not the agencies in his state are familiar with the story of Cadmus and the Dragon's teeth, they have heard much about mosquito control during the past two years, and thus far have been too wise to involve themselves.

Meanwhile, we are reliably informed, a mid-western director of mosquito control who has been relying largely on biological methods—control by impounding water, natural enemies, etc.—is reported to have had greater success than in the few areas where he used ditches. And, furthermore, he has not had to comb a single wildlifer out of his hair.

It would be well for all citizens to apply to local mosquito-control programs these WPA tests—for the sake of wild life and of their own pocketbooks. Is mosquito control necessary? Do the controllers know what species cause trouble, and in what degree? Have biological methods of control —which are cheaper than artificial methods —been used so far as possible? Has drainage been used as a last resort? Does the mosquito-control system installed fall within the maintenance limits imposed by local tax revenues?

Federal pest mosquito-control projects are, by and large, now measured by these yardsticks. It would be a constructive move to apply them locally.

AUDUBON ASSOCIATION ACTIVITIES

NATURE CAMP REACHES SATURATION POINT

Many Applicants Turned Away

Up to July 15, it was necessary to decline acceptance of 24 applications for enrollment at the Audubon Nature Camp, for sheer lack of accommodations. A number of applicants offered to bring their own tents and sleeping equipment but it was impossible to accept their suggestion because the number of seats in boats is necessarily limited, it is desired to keep classes small, and the kitchen staff and equipment cannot provide for more people. Some 20 of those whose applications had to be rejected could have found places in the first two periods, and it is to be hoped that next year they will apply early enough to insure attendance; the first two periods are those most likely to have vacancies.

Those who have been at the camp this year report that this is "the best season ever." Twenty-four states, including the District of Columbia and Canada, have sent representatives to the camp this year; this brings the total for three years to 32. The geographic distribution for 1938 is as follows:

New York	67	California	3
Massachusetts	39	New Hampshire	2
New Jersey	24	West Virginia	2
Pennsylvania	21	Texas	2
Ohio	19	Florida	1
Maine	12	Virginia	1
Connecticut	10	Kentucky	1
Illinois	10	Delaware	1
District of Columbia	6	Maryland	1
Canada	4	North Carolina	1
Wisconsin	4	South Carolina	1
Minnesota	4	Vermont	1

Occupations of those who have attended, this year, are as follows: Teachers, 134; students, 29; miscellaneous, 37; Scout and other activity leaders, 18; librarians, 8; camp counselors, 7; museum staff members, 4. The miscellaneous group includes physicians, engineers, conservation workers, researchers, writers, etc.

Nature has been lavish with wild life this summer, and many new species have been added to the camp list. Early one morning a bull moose was seen on the mainland, across from the camp's wharf, a number of new birds have already been added to the already considerable list, and seals have become almost commonplace.

The biggest thrill of the year, however,—and probably the biggest thrill of the three years,—came from encounters with a pod of the world's largest mammals. Mr. Buchheister describes the experience in a letter, as follows:

"One beautiful morning as we were finishing up the Bay circuit, and were bound for Western Egg Rock, Allan sighted a whale about a quarter of a mile from the boat. We immediately started for the animal hoping that we might get just a glimpse of it. Can you imagine the excitement when, within a few minutes, we had 5 enormous whales within several hundred feet of our boats. These huge creatures would come to the surface and send out great spouts which were accompanied by a loud hissing sound audible

to everyone. Allan did a yeoman's job with the moving picture and still camera and I am sure that we will have some remarkable photographs. After staying with the whales for about an hour, we journeyed home and threw the Camp into utter confusion with our tales. Of course, there was nothing for me to do but take the rest of the enrollees and staff down the bay that very afternoon, and, as luck would have it, we found the same whales in larger numbers and cruised in around them for fully an hour and a half. Everybody took pictures until not a film was left. At one time one of the whales came to the surface within 50 feet of the boat and, believe it or not, turned right over in the water showing its huge, white belly, striped with black. That night the crowd was so utterly exhausted from the thrills of the day that we had to cancel the evening program. I just wish you could have been here to see that sight."

COME TO THE CONVENTION IN OCTOBER!

The thirty-fourth annual Convention of the National Association of Audubon Societies will take place October 21–25, 1938, in New York City.

As in the past two years, it will open with the reunion dinner of the Audubon Nature Camp, on Friday evening, the 21st, at the American Museum of Natural History, at 8 P.M. Not only the ex-campers, but all members and friends of the Association are cordially invited to participate in this highly convivial and entertaining event. Motion pictures of camp and campers, in action in the summer of 1938, will be shown.

A two-day field-trip to Cape May, N. J., will be taken on Saturday and Sunday, the 22d and 23d, and a one-day field-trip on Sunday, the 23d, to Montauk Point, Long Island. Those who have participated in these field-trips for the past three years will need no encouragement. The trips will be led, as always, by members of the Association staff.

Monday and Tuesday, the 24th and 25th, will be devoted to accounts, by members of the Association staff, as to its farflung activities of the present year, and to addresses by outstanding authorities in the conservation field, with discussion thereon. There will be an abundance of lantern slide and motion picture illustrations, with some very beautiful new colored pictures of birds in the Texas and Florida sanctuaries.

The members' annual business meeting will be held on Tuesday, October 25, and the Annual Dinner will be the concluding event that evening. A special meeting of accredited delegates of affiliated clubs will be held on Monday, the 24th.

May we suggest that you set aside these dates on your calendar now, and enjoy with us to the full these four days, beginning Friday evening, October 21, and ending Tuesday evening, October 25. Full particulars will be published in the October issue of BIRD-LORE, and programs will be mailed to every member well in advance of the Convention date.

Result of Membership Appeal

During the period March–June, 1938, the Board of Directors issued special invitations to 49,000 persons throughout the United States to become members. Other persons became members during that period in response to special letters and for other reasons. In direct response to the special invitations, 598 persons accepted, representing a return of 1.22 per cent. This represents in percentage the best result which has ever been obtained by this Association in any one membership drive, and it is highly encouraging and perhaps significant that this occurred during a period of pronounced economic depression in the United States.

There were 518 persons who became regular members, 62 sustaining, 11 active, 2 supporting, 2 contributing, and 3 life. Contributions totaling $41 were received from persons who did not accept membership. The total sum received up to June 30 was $4,426, and the total cost of sending out 49,000 appeals was $1,865.09. This cost does not include that of sending BIRD-LORE to the 598 new members; this cost for one year would approximate $897.

AFIELD IN THE SANCTUARIES

Much encouragement in sanctuary work is the result of field-work in the far-flung areas of the 'Deep South' since we reported to our readers last. It will be recalled that a promise was made to tell something of the situation in Texas in this issue, and we do so herewith, with a new conviction that progress has been made and that conservation is gaining ground steadily in the Lone Star State.

In early June the Supervisor of Southern Sanctuaries started on his annual pilgrimage to the far corners of our field endeavors, and was met in Houston by the Executive Director, Mr. Baker, by Dr. W. E. Wrather, of Dallas, representing the Texas Federation of Nature Clubs, and by Mr. Joseph M. Heiser, Jr., representing the Houston Outdoor Nature Club.

Pelicans Increase

Field-trips out of Houston resulted in the inspection of Bird Island, off the southern tip of Galveston Island, where the largest Brown Pelican colony in Texas was in full swing, and a most satisfactory check-up on the Vingt'un Islands where we are watching a fine colony of Roseate Spoonbills, plus White-faced Glossy Ibises, American Egrets, the smaller Herons, and other characteristic Texas birds. From a pitiful showing of six nests of the Brown Pelican, in 1936, on Bird Island, the count this year leaped to an all-time high of 272 nests! Hatching was just under way, and all indications point to a 'crop' of young this season which will be in the close neighborhood of a thousand birds. While no warden is stationed at Bird Island, steps are being taken to have it guarded next season. For the remainder of this season, our enthusiastic and cordial coöperator, Mr. Frank Clarkson, of the U. S. Biological Survey, in Houston, will keep an eye on it during his frequent trips afield. Another considerable colony of Pelicans is raising its young on the Third-Chain-of-Islands farther south at Mesquite Bay, so that conditions with this species in 1938 are much brighter than at this time last year.

The Vingt'un Islands Sanctuary was found to be in excellent shape. On this trip we were the guests of Mr. Frank Clarkson, and the group included, in addition to those above mentioned, Mr. and Mrs. Palmer C. Hutcheson, representing the Houston Garden Club, and Mr. Tarleton Smith of the Texas Coöperative Wildlife Research Station. It was the best year of the present writer's knowledge, and, of course, interest in this area always centers about the Roseate Spoonbill. While other species are present in teeming numbers, it is the 'Pinks' which we are more concerned about, as colonies of these splendid birds are few and far between. Nests of the Spoonbills amounted to 126, a really fine group. Young had hatched and some were on the point of flight; the birds were very tame, as were the Egrets, Herons, and Ibises, which made up the rest of the Islands' population, and evidenced the care and protection given them by Warden Friddell. The influx of White-faced Glossy Ibis to this area is gratifying, and they are nesting in canes, just as the Eastern Glossy does in the great Red Light Reef Rookery in Lake Okeechobee. This cane is on the increase at Vingt'un, and may account for the coming of this species.

A dredge has been this spring and early summer taking shell from the reef near Vingt'un Islands, thus threatening the wearing away of the islands by wave-action. The State Fish, Game and Oyster Commission, on being advised of this situation, has given assurance that it will determine satisfactory limits within which no dredging will be permitted, so that there may be no molestation of the nesting birds or threat to the size of the islands as a direct consequence of dredging operations. The Houston Garden Club, the Houston Outdoor Nature Club, and the Texas Federation of Nature Clubs, whose representatives were with us on our visit to the islands in June, participated with us in representations to the State Commission, both with relation to the dredging and the threat of near-by oil-drilling operations.

Dropping on southward along the coast, we visited the sanctuaries at the Second-Chain-of-Islands in San Antonio Bay and the Hynes Bay Rookery, in the bay of that

name, to the northward of Second-Chain. A most impressive ceremony took place on the latter, when a memorial tablet was unveiled in commemoration of Mr. James J. Carroll, of Houston, one of our most valued coöperators who, it will be recalled, died in February of this year. Mrs. Carroll and her three daughters were present, and the surroundings, amid the great numbers of birds, were peculiarly fitting to the service. Both at Second-Chain and Hynes Bay Islands the Spoonbills are doing well. On the former, 141 nests were counted. An additional colony was located by Warden Fuller on a small island lying near-by, and this contained 40 nests, making a total of 181 nests, a splendid showing, and far above the 109 which were counted last season. There were 67 nests on Hynes Bay Island, the Spoonbills putting in a rather late appearance there this season. Warden Davis states that most of the available nesting-sites had been taken by Ibises and Herons, and this was borne out by the discovery of Spoonbills actually nesting in clumps of cane, something which the writer had never before seen on the Texas coast, or in Florida.

Hynes Bay exhibits an amazing concentration of White and White-faced Glossy Ibises. About 2000 nests of the former are present and around 500 of the latter. The mass of wheeling, circling birds over this patch of grass, for it is little else, constitutes one of the great bird-sights of Texas, and it is highly gratifying to know that this favored spot is under the direct supervision of our good friends, Judge and Mrs. Hartman, and is guarded by the Association's Warden Davis, camped only a few hundred yards from the rookery in his houseboat.

After personal contact with various conservation officials and interested parties in the Corpus Christi area, we proceeded to Brownsville and the Rio Grande Valley, visiting Green Island, that great sanctuary of the Reddish Egret, lying in the Laguna Madre, and guarded by Warden Larson. Between 4000 and 5000 of these graceful birds are making their home there this year, amid many Egrets and Herons. The vegetation is in better shape than for some years past, and Warden Larson has been constantly on the island since the middle of March, with the exception of two nights! A flock of about 300 Spoonbills frequents Green Island most of the summer, but does not nest.

Conditions in the Rio Grande Valley were rather poor because of a long-continued drought, which was broken during our stay. The usual numbers of birds were not seen, but investigations of lakes, resacas, 'brush' and shoreline were undertaken with an eye toward the betterment of feeding conditions and nesting areas. Warden Blanchard, on duty six months in the year, was just closing his tenure of office for 1938 and reports marked progress in the spreading of the gospel of conservation. Mr. Baker addressed a large audience in Harlingen one evening, showing colored slides and movies, and telling of the aims and endeavors of the Association in that area. He also addressed the Brownsville Kiwanis, the Harlingen Rotary Club, and led an informal round-table discussion at the home of one of the members of the Rio Grande Nature Club.

There is much to be done in the valley, but there is no doubt about the fact that the Association is making itself known, both through the efforts of coöperators there, and the constant field-work of Wardens Blanchard and Larson, as well as the maintenance of Green Island.

We are depending on Texas for much of the Spoonbill population of the country for in this respect it is far ahead of Florida. Then, too, it is the stronghold of the Reddish Egret, and so, what with these two rare species, plus the many others we are interested in, the Lone Star State bulks large in the sanctuary program and deserves all the attention we can give it. Best of all, it shows dividends in birds, and the interest of the people is steadily mounting.

Florida Summer

Summertime in the land of eternal summer might be said to be a little slack! This is when we retrench, refurbish, and renew our forces and equipment for the strenuous work of fall and winter in the Land of Flowers. Recently, our southwest coast patrol has been operating in a new area, the Charlotte Harbor district, and has been guarding a number of rookeries there. With the nesting season about over, the boats are being overhauled and put in shape for the storm season

and the fall work. Chief Warden Hart is busy with paintbrush, new decking, rewiring, etc., and the motor-cruiser *Audubon* and the patrol boat *Guy Bradley* will emerge from this activity spick and span and ready for work. Some changes have taken place in this patrol, for Wardens Edward Reimann and Harold Wirebaugh have left the service, the former to pursue his education and the latter because of conditions at his home. A new warden in the person of Pat Stewart has been assigned as Hart's assistant.

The Lake Washington Rookery came off beautifully and a splendid crop of new Herons and Ibises is now on the wing there. Warden Eifler's term of office is over until the spring of 1939.

Lake Okeechobee and its Glossy Ibis population are still under full supervision. Warden Chandler reports that some of the birds are still laying! He will be there until all danger of collecting and shooting is past. The Kissimmee Prairie Florida Cranes, Burrowing Owls, and Caracaras have long since completed their domestic affairs until another season.

Warden Lowe in the Upper Keys is watching numbers of nests of the White-crowned Pigeons, and preventing shooting of the adults, and collection of squabs. Edward M. Moore, in the Lower Keys, continues his vigilant watch on the Key Deer, and his educational program in Key West, with really remarkable results. His attitude has gained local confidence and the Association has made strides there that constitute conservation history. A petition has been prepared and will shortly be submitted to the state authorities, who have shown definite interest, asking for an area to be set aside in the Lower Keys as a breeding-range for the Key Deer.

Drought Slackens

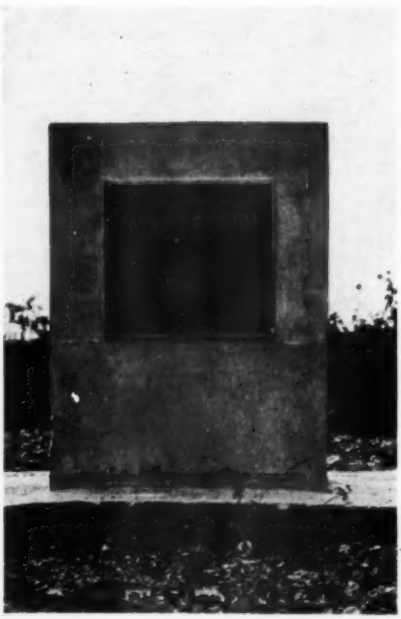
The drought in the Everglades has been greatly allayed recently and the feeding-grounds are in much better condition. Before long, the great roosts along the rivers of the southwest will be established and the fall season will be on. Another detailed count of the Great White Heron population of the bay and the keys will be undertaken in the fall, when another aërial survey will reveal the results of this spring and summer's guardianship of this species.

In the Carolina coast country it appears that the much-dreaded Santee-Cooper power project is going forward! Funds have been allocated and the legal barriers removed. The Santee Swamp, described by Mr. Roger Peterson in the last issue of BIRD-LORE, will be no longer the place of peace and quiet that it has been for centuries, and the draining of the cypress lands, the ruin of the river rice-fields, and the inundation of many old plantations now seems inevitable. It is a set-back to the natural resources of a favored land, but we cannot have successes continually. The sanctuary program for 1938, as far as results in the field are concerned, has been highly satisfactory, and we extend heartfelt thanks to our many friends for making this possible. Much more could have been done, and more should be done right away, but our funds are limited, as our readers know, and we are thankful that we have been able to produce what we have, with their aid.—A. S., JR.

Memorial to James J. Carroll

Mr. James J. Carroll, of Houston, Texas, was vitally interested in the preservation of water-birds at their nesting colonies on the Texas coast. He was primarily responsible for the institution of warden service by the National Association of Audubon Societies at at least two of the Texas sanctuaries. Officials of the Association were his guests on many occasions on visits of inspection to the sanctuaries.

On June 19, 1938, Mrs. James J. Carroll, her three daughters, Mesdames John P. Bullington, I. H. Kempner, Jr., and Dillon Anderson, Dr. W. E. Wrather, representing the Texas Federation of Nature Clubs, C. Bissell Jenkins, Charleston, S. C., a friend of Mr. Carroll's and a member of the Association, Alexander Sprunt, Jr., Supervisor of Southern Sanctuaries, and John H. Baker, Executive Director, visited the Second-



Chain-of-Islands, between San Antonio and Mesquite Bays, for the purpose of unveiling a tablet in memory of Mr. Carroll.

At the ceremony, Mr. Baker said:

"We are gathered here to pay tribute to one we loved, a dear friend, who found in an interest in nature one of the durable satisfactions of his life, a devoted friend of the wild birds of this, his native state of Texas, and especially of this Second-Chain-of-Islands, a favorite wilderness spot of his. We are thankful for the privilege of having known and loved James J. Carroll.

"The animated beauty of this scene, in the midst of which we stand, is a living memorial to his far-seeing efforts to awaken understanding of the value of protection and conservation of the unique wild bird-life of this beautiful coast. It is a vivid memorial which lives on in the minds and hearts of his friends.

"In grateful appreciation of the inspiration and invaluable counsel which he abundantly supplied, and of his pioneering contributions to science and to the cause of wild-life conservation, the National Association of Audubon Societies has erected, on this spot we have chosen to call Carroll Island, and now unveils, on this 19th day of June, 1938, a permanent memorial, with bronze tablet which reads:

In Memoriam

JAMES J. CARROLL

1876–1938

HIS OUTSTANDING EFFORTS ON BEHALF OF TEXAS BIRDS AND HIS LABORS TO PRESERVE THE NESTING BIRDS OF THESE ISLANDS ARE COMMEMORATED IN THE ERECTION OF THIS TABLET BY

THE NATIONAL ASSOCIATION OF AUDUBON SOCIETIES"

SANCTUARY FUND FALLS BEHIND LAST YEAR'S

Leaves Large Deficit

Contributions to the Sanctuary Fund, which make possible the Association's extensive maintenance of warden service, protecting nesting colonies of birds,—many of them dangerously reduced in numbers,—this year fell behind last year's total, and far short of the amount needed to give the birds satisfactory protection.

Again it was evident that large numbers of modest contributions were the backbone of this financing. Were all members of the Association to join this public-spirited group of contributors, it would be possible to come much nearer to the requirements of the birds throughout the United States.

The Association is spending on sanctuary efforts a sum far in excess of the total contributions to the Sanctuary Fund, but is able to do so only by drawing on certain endowment income not specifically allocated for the purpose. Contributions to the Fund totaled $12,371.

Contributors to this important activity since the last issue of BIRD-LORE went to press, are as follows:

Mrs. George W. Acker, Peter Alexander, Prof. Catherine Allen, Mrs. Clifford B. Allen, W. H. Allison, George E. Alter, Miss Muriel Alvord, Oakes I. Ames, Mrs. G. O. Anderson, Anonymous, Mrs. John M. Archer, Miss Annie J. Armstrong, Mrs. Benjamin W. Arnold, Randolph

Ashton, Dr. John L. Atlee, Mrs. Hugh D. Auchincloss, Audubon Society of New Hampshire, Harold Ault, Charles F. Ayer, Mrs. D. C. Backus, Charles Baird, Mrs. John Bakewell, Mrs. James McF. Baker, L. G. Banker, Karl E. Bartel, J. Henry Bartram, Perkins Bass, Miss Mary G. Beach, William C. Beller, J. E. Bennett, William J. Berg, E. John Besson, Miss D. L. Betts, Mrs. Millicent Todd Bingham, Miss E. V. Binney, Irving H. Black, Major Gist Blair, Mrs. J. C. Blair, Robert Wood Bliss, Miss Margaret L. Bodine, Mrs. Charles A. Boehrer, Mrs. E. A. Bouer, Mrs. H. L. Bowles, Mrs. J. C. Boyd, Dr. Walter W. Boyd, Mrs. Robert Bradford, Miss Ethel W. Brady, George O. Brandt, Buford F. Bram, Mrs. Jules Breuchaud, Ralph Broede, Miss A. T. Brooks, Mrs. Louis Brooks, Mrs. Addison Brown, Miss Anna E. Brown, Mrs. William Clark Brown, Mrs. Willard H. Brownson, Fred H. Brune, Reginald W. Bulkley, F. K. Bull, Dr. Edgar Burke, Miss M. Theodora Burt, George T. Butler, Mrs. James MacGregor Byrne, G. Rae Callender, Mrs. E. M. Carpenter, Leonard L. Carter, R. C. Caskey, Mrs. George Chahoon, Jr., Joshua C. Chase, Dr. DeWitt S. Clark, Miss E. M. Clark, Miss Etta Clark, Lewis M. Clark, Mrs. William A. Clark, Mrs. M. S. Clifford, H. B. Closson, Miss Louise H. Coburn, Miss Virginia A. Cogan, Edward T. Cone, L. L. Connell, Eben F. Corey, F. W. Corl, Mrs. John A. Cousens, W. H. Cowles, Miss Marie B. Cremer, Mrs. Emmons Crocker, The Rev. and Mrs. John Crocker, Mrs. S. V. R. Crosby, Mrs. Francis B. Crowninshield, Mrs. Louis Curtis, Mrs. F. G. Darte, Louis R. Davidson, Captain Eugene H. Davis, Miss Hortense Davis, Walter B. Davis, Miss Annette C. Decker, Department of Zoölogy, University of Miami, Florida, Mrs. Franklin D. Dickson, Albert Dietrick, Mrs. Lamont Dominick, James H. Douglas, Jr., Mrs. B. H. B. Draper, Miss Leora M. Dryer, Mrs. W. B. Dudley, Mrs. S. Naudain Duer, Edward D. Duffield, Mrs. Edward Dufner, Miss Mabel Dumm, Mrs. H. J. Duubaugh, Frederick S. Duncan, S. Hallock duPont, Mrs. Victor duPont, Sr., Mrs. Frank J. Dutcher, Mrs. John W. Edmunds, Mrs. L. E. Ellis, E. H. Ellison, Miss Agnes Elstad, Dean William Emerson, Mrs. Robert Emmons, Sr., Mrs. A. W. Erickson, Miss Myrtle Fahrney, Mrs. W. S. Farnham, Walter Faulks, Mrs. Carl R. Feld, Mrs. Sidney Ferguson, Erland F. Fish, Mrs. Hamilton Fish, Jr., Edward Fleisher, Ralph E. Flinn, Mrs. A. E. Foote, Mrs. J. Malcolm Forbes, Miss Annie G. Foster, Frank B. Foster, Mrs. R. J. Frackelton, Mrs. D. W. Fragley, Jr., Francis R. Freeman, James J. Friauf, Mrs. Newton Alvin Frost, P. B. Gale, Mrs. Frederic S. Gould, George A. Graham, Jr., Mrs. George A. Graham, Jr., Miss Ethel M. Gray, Miss Elizabeth Griffiths, Lawrence I. Grinnell, Miss Catharine R. Griswold, Mrs. S. A. Guiberson, Jr., Mrs. Edward A. Gunther, Henry C. Haile, B. Brown Hall, Mrs. Juliana Hallson, Mrs. Charles S. Hamilton, Miss Mary Alice Hamilton, Mrs. Kent Hamilton, Truman P. Handy, Miss G. R. Harding, Harry F. Harper, Arthur M. Hartwell, Mrs. Conrad P. Hatheway, Miss M. M. Hawes, Mrs. Morris Hawkes, Philip C. Heald, Miss Maude Helson, Mrs. A. Henderson, The Misses Hersey, Miss Sylvia R. Hillhouse, Mrs. F. L. Hinds, Mrs. Mary C. Hiser, Miss Elaine Y. Hoff, Mrs. Henry Holt, Mrs. Maurice Hoopes, Mrs. F. O. Houghton, Dr. Wallace B. House, Mrs. Lucien Howe, Miss Virginia S. Hoyt, Miss Marcia M. Hudnutt, Mrs. M. Edison Hughes, Mrs. Edmund D. Hulbert, H. D. Hutchins, Deaconess Harriet C. Hyde, R. Maxwell Ingham, Louis Ingram, Mrs. T. G. Jackson, Mrs. Willard C. Jackson, Mrs. Bayard James, Miss Flora A. Jarves, Mrs. Cora A. Jipson, Daniel S. Johnson, Mrs. Edwin J. Johnson, Julius M. Johnson, T. H. Kearney, Miss Bethia S. Keith, Mrs. Arthur F. Kelley, Mrs. William S. Kellogg, Dr. Howard A. Kelly, John H. Kemp, Jr., Dr. Edward J. Kempf, George C. Kiefer, Jr., R. E. Kincaid, Dr. Arnold Knapp, Mrs. M. D. Knapp, Miss Mabel Kritzmacher, Gustav E. Kuehle, Arthur K. Kuhn, R. B. Kurtz, Edwin Kuttroff, Mrs. James F. Lawrence, Mrs. P. L. LeBrun, Samuel Lee, Miss Elizabeth Leeds, Mrs. H. L. Leonard, Miss Nina F. Lewis, Miss Harriet B. V. Lidgerwood, M. A. Linton, Mrs. M. M. Lippincott, Mrs. Howard A. Loeb, Robert R. Logan, Mrs. Mary H. Loines, Miss Hortense B. Loiselle, Miss Harriet E. Loomis, Edward C. Lord, Mrs. J. H. Lorenz, Graeme Lorimer, Mrs. O. L. Loring, Frederick H. Lovejoy, S. C. Loveland, Ralph and James Lowell, W. A. Lown, Mrs. F. C. Lyman, Mrs. Arthur McGraw, Mrs. F. G. McIntosh, Justice J. C. McReynolds, Miss Ada S. MacDonald, Miss S. S. Maclaren, Mrs. John MacLauchlan, Mrs. George Williamson Mann, Mrs. Charles B. Manning, Miss Edith H. Mather, Mrs. C. H. Matthiessen, Mrs. W. M. Mayes, Lawrence J. Mead, Dr. Gordon M. Meade, Mrs. Manton B. Metcalf, Claude Milanson, Dr. R. M. Miller, Minneapolis Audubon Society, H. B. W. Mitchell, Mrs. C. M. Moderwell, E. H. Molthan, Miss Olive B. Moody, Hon. A. Harry Moore, Mrs. T. E. Morris, Miss Marion F. Morrison, Adolph Mueller, Miss Ethel M. Murden, Mrs. J. F. Murray, Dr. J. J. Murray, Julian S. Myrick, Emerson School Nature Classes, C. H. Nealley, Mrs. Charles Neave, Newark Garden Club, New York Women's League for Animals, Inc., Mrs. Charles J. Obermayer, John W. O'Leary, Jr., Mrs. Louise R. Oliver, W. Paul O'Neill, Marshall Owens, Mrs. William N. Parker, Mrs. Frederic T. Parsons, G. A. Paul, Miss Jessie P. Pelton, Mrs. Jefferson Penn, Mrs. W. B. Perley, T. Morris Perot, Jr., Mrs. C. C. Peters, Miss Isabel M. Peters, Mrs. Ralph Peters, Jr., Mrs. L. H. Pfarre, G. A. Pfeiffer, Miss Elizabeth W. Pharo, Capt. John J. Phelps, Mrs. Lillian C. Pierre, Mrs. Raymond Pitcairn, Miss Charlotte S. Playter, Mrs. Robert W. Pomeroy, Willard Pope, Miss Clara F. Prescott, Henry D. Prescott, Mrs. Henry D. Prescott, Mrs. Benjamin Prince, Mrs. William Cooker Procter, H. Harrison Proctor, Mrs. Arthur S. Putnam, Queens County Bird Club, Miss Anna Randolph, Miss Florence Rata, Dr. A. R. Reder, Mrs. J. H. Reed, Henry Richards, Lawrence Richey, G. Brinton Roberts, Dr. Thomas S. Roberts, A. W. Robertson, Mrs. H. R. Robinson, Miss Alice M. Rockefeller, Mrs. John D. Rockefeller, Jr., Mrs. J. B. Roessing, Miss M. L. Russell, St. Helens Garden Club, Mrs. F. J. Sarmiento, Mrs. Worthington Sawtelle, Miss Margaret A. Schaefer, Miss Evelyn J. Schneider, Hermann Schwarz, Mrs. Elizabeth Schwarzler, Mrs. Charles F. Scott, Mrs. William R. Scott, Miss Susan J. Scudder, Mrs. William Seyfert, Mr. & Mrs. Dudley C. Sharp, Dr. George C. Shattuck, Mrs. Albert Shaw, H. S. Shaw, C. W. Shoemaker, Miss Nettie E. Siebenaler, Mrs. Reinhard Siedenburg, C. Dewar Simons III, Mrs. Wikoff Smith, Mrs. Martin E. Snyder, Mrs. G. E. Spingarn, Miss Betty E. Spare, Miss Virginia P. Speed, Mrs. S. T. Steele, Miss Margaret W. Stevenson, Dr. John W. Stokes, Harold G. Storke, Mrs. C. Strauss, Miss Elma L. Stuckman,

Mrs. Thomas W. Swan, Mrs. W. B. Taylor, Ethan W. Thompson, Miss Martha K. Tichenor, Mrs. I. Sheldon Tilney, Mrs. Florence M. Toye, Lucius C. Tuckerman, James A. Tufts, Mrs. Clarence I. Vail, John Richardson Ward, F. N. Waterman, J. B. Webber, Miss Cora A. Weeks, Mrs. H. Weidig, The Rev. J. Armistead Welbourn, Mrs. Frederick L. Wells, William W. Welsh, Mrs. David Wesson, C. C. Whitehead, Mrs. Henry F. Whitmore, Mrs. Geoffrey G. Whitney, Mrs. Harris Whittemore, Mrs. F. L. Wilcox, Miss Eugenia Wilder, Mrs. Clarence C. Williams, A. H. Wilson, John Woodall, Mrs. R. B. Woodelton, Miss Dorothy Woodhams, Miss Elizabeth A. Woodman, Mrs. Park M. Woolley, Edward Woolman, Mrs. Horace H. Work, E. A. G. Wylie, and Mrs. Charlton Yarnall.

REPORT OF NOMINATING COMMITTEE

Mr. Laurence B. Fletcher, a director of the Massachusetts Audubon Society and Mr. Bayard H. Christy, of the Audubon Society of Sewickley Valley, constituting the duly authorized Committee to nominate directors and members of the Association's Advisory Board, to be elected at the annual meeting in October, 1938, have made their report. The Committee nominates, to serve as Directors of the National Association of Audubon Societies for three-year terms expiring in 1941: Drs. Robert Cushman Murphy and Harold E. Anthony and Mr. Kermit Roosevelt, of New York, N. Y.; Prof. Aldo Leopold, of Madison, Wis.; and Prof. J. R. Dymond, of the Royal Ontario Museum of Zoölogy, Toronto, Can.; for a two-year term, to fill a vacancy, expiring in 1940: Mr. Dean Sage, Jr., of Orange, N. J.

The Committee nominates for members of the Association's Advisory Board the following: Alabama, the Rev. H. E. Wheeler; Alaska, Otto William Geist; Arizona, Dr. Charles T. Vorhies; Arkansas, Prof. William J. Baerg; California, Dr. Joseph Grinnell; Colorado, Robert Niedrach; Connecticut, Aretas A. Saunders; Delaware, Julian W. Hill; District of Columbia, Dr. H. C. Bryant*; Florida, C. Russell Mason*; Georgia, Earle Greene; Illinois, S. C. Kendeigh; Indiana, Samuel E. Perkins III*; Idaho, Victor Jones*; Iowa, Walter M. Rosene; Kansas, H. H. Lane; Kentucky, Dr. Gordon Wilson; Louisiana, Stanley C. Arthur; Maine, Dr. Alfred O. Gross; Maryland, Robinson C. Watters*; Massachusetts, Ludlow Griscom; Michigan, Prof. S. A. Graham; Minnesota, Dr. Thomas S. Roberts; Mississippi, Miss Fannye A. Cook; Missouri, Sterling Jones*; Nebraska, Prof. Myron H. Swenk; Nevada, George Springmeyer; New Hampshire, Francis B. White; New Jersey, James L. Edwards*; New Mexico, Ernest Thompson Seton; New York, Dr. Arthur A. Allen; North Carolina, the Rev. John H. Grey; North Dakota, Russell Reid; Ohio, Edward S. Thomas; Oklahoma, Prof. A. O. Weese; Oregon, William L. Finley; Pennsylvania, Norman J. McDonald; Rhode Island, Mrs. H. E. Walter*; South Carolina, Edward Milby Burton; South Dakota, Philip DuMont*; Tennessee, Albert F. Ganier; Texas, Jerry Z. Stillwell; Utah, Dr. Vasco M. Tanner; Vermont, Prof. Henry F. Perkins; Virginia, Prof. Charles O. Handley; Washington, Harry W. Higman; West Virginia, A. B. Brooks; Wisconsin, Prof. Leon J. Cole; Wyoming, O. J. Murie. (Names marked with asterisks indicate new candidates for the Advisory Board.)

JUNIOR CLUB ENROLLMENTS

Canada, Texas, California Enrollments Increase

The falling off of memberships in Junior Audubon Clubs that always seems to accompany economic difficulties is evident this year, for the country, as a whole, with a drop in the number of junior members from 164,132 to 159,741. The number of Clubs, however, has actually jumped from 5758 to 5907. (Figures as of June 1.)

Notable gains were made in certain areas, especially southern California, where the number of children enrolled increased from 4371 last school year to 5471 during this school year, and in Texas, where the enrollment increased from 2934 to 4169.

The most notable showing for the entire movement this past year was made, however, in Canada, where the number of Clubs increased from 703 to 1327, and where the

number of children enrolled grew from 15,462 to 27,566—a gain of nearly 100 per cent. The principal factor in this outstanding growth is the recognition of the Junior Audubon Clubs, by the Minister of Education for Ontario, as an official part of the curriculum, natural science division, up to and including the sixth grade.

Spring Field-Trip Success

An experimental spring field-trip for members of the National Association of Audubon Societies and their friends was held on Long Island on May 22, and proved such a success that it will undoubtedly be repeated. A party of sixty people, under the guidance of Messrs. Cruickshank, Peterson, Pough and Vogt, left the American Museum of Natural History at 5.30 A. M. and made its first stop in Kissena Park, Queens, where, despite intermittent downpours, the day's only Least Bittern and numbers of Warblers were observed. Dampened in body and spirit, the party continued to the Mill Neck Bird and Game Sanctuary where arrangements had been made to visit parts of the area normally closed to the general public, and where Mr. Cruickshank discovered a Hummingbird's nest that was the first ever seen by many of the group. Enroute to the Jones Beach Bird Sanctuary, under clearing skies, a stop was made near Farmingdale where, on a remnant of typical Long Island prairie, the typical prairie birds—including Upland Plover and its nest—were observed. At Jones Beach there was a satisfying variety of shore-, beach-, and water-birds. The high point of the day, for many observers, was a Curlew Sandpiper, an extremely rare wanderer from Siberia, that few ornithologists have observed in the United States. The bird proved obligingly tame and fed unconcernedly, where it had been found by a scouting party the day before.

The total list for the day amounted to 117 species and would unquestionably have been much higher save for the early morning rain. However, the participants expressed enthusiastic approval of the trip and urged that it be made an annual feature.—W. V.

Two Interesting Conventions

By **T. Gilbert Pearson**

President Emeritus, National Association of Audubon Societies

The Seventh Convention of the International Committee for Bird Preservation was held in Rouen, France, May 6 and 7, 1938. Prominent members of scientific societies, representing 13 National Sections of the Committee, were present.

In brief, the Chairman reported that the shooting season for Ducks in Canada had been reduced to two months, and the sale of such birds prohibited, except in the Northwest Territory and the Yukon. Mention was made of the one-month shooting season for wild fowl still obtained in the United States and of the encouraging reports of the increase of these birds during the past two years.

The treaty recently enacted between the United States and Mexico was explained, and the extent to which the illegal killing of birds still goes on in the Valley of Mexico was described.

The new law in Puerto Rico, which reduced the shooting of Ducks from six months to thirty days and prohibits at all times the killing of shore-birds, was given as an example of what it is hoped the governments of other West Indian Islands, Central America, and South America may eventually adopt.

European Bird Treaty

The idea of protecting birds in Europe by international agreement was first advanced at a meeting of German foresters and farmers in 1868. The idea was discussed with growing interest for thirty-four years and resulted finally in the Paris Bird Treaty of 1902.

The declared intention of its advocates was to protect birds useful to agriculture, but it gave protection only to a portion of such birds, and then, too, only in the spring and summer. Naturally it proved to be inadequate, and many have urged its revision.

This matter has been given much attention by the International Committee for Bird Preservation since its organization in 1922, and we have had subcommittees working on the subject almost constantly.

At our meeting in Brussels in 1935, representatives from the Scandinavian countries strongly urged the adoption of an entirely new treaty, and a subcommittee was appointed to consider the plan submitted. Its report was made at a meeting of the European Continental Section of the International Committee, held in Vienna in July, 1937, and generally accepted.

Representatives who took part in this action were from Austria, Belgium, Czechoslovakia, France, Germany, Great Britain, Holland, Hungary, Norway, Poland, Sweden, and Switzerland. France, being the depository of the existing treaty, was asked to work for a conference of official delegates of various countries, who would agree on the exact wording of the proposed treaty and work for its ratification.

Briefly this is the present situation in reference to the bird-treaty plans of our European co-workers.

Ducks Decreasing in Europe

There was an encouraging report in reference to the work started by bird-protectionists better to safeguard the wild-fowl supply in Europe. These efforts are being carried on especially in Great Britain and the Scandinavian countries.

In 1925, Dr. Einar Lonnberg, of Stockholm, called public attention to the diminishing numbers of Ducks and Geese. He set forth his ideas in an article we printed in the first bulletin of the International Committee, issued in 1927.

At the present time extensive investigations are being made to get a better idea of the present wild-fowl supply. In England alone there is a committee of more than thirty naturalists and sportsmen working on this subject under the direction of Dr. Percy Lowe.

At no meeting of the Committee before this had there been indicated a greater interest in the Committee's activities abroad. One of the minor examples of this is the decision that our next bulletin will be published at the expense of the Committee as a whole and not wholly by the New York office, as heretofore. Many interesting reports have been received from widely scattered countries of the earth, and these will be combined in a report which will be distributed this summer.

After sixteen years' effort in organizing and developing this world movement, the Chairman felt that the time had well come that a European should assume this post. He, therefore, expressed his desire to retire from the Chairmanship of the general Committee in order to be able to devote his entire time and efforts to the Pan-American Section of the International Committee organized some time ago to cover the Western Hemisphere. M. Jean Delacour, of France, therefore was selected as his successor. The retiring Chairman was, by acclamation, elected 'Founder' for life.

International Ornithological Congress

Following the meeting of the International Committee for Bird Preservation, the Ninth International Ornithological Congress held its sessions May 9–13. The number of Americans present and taking part on the program was larger than has usually been the case at these meetings.

Dr. Arthur A. Allen was there with his marvelous sound-pictures; and Dr. James P. Chapin most effectively related his experiences in discovering the 'Congo Peacock.' George M. Sutton exhibited paintings, and told of his recent expedition to Mexico. Dr. Ernst Mayr spoke on 'Sex-Ratio in Birds'; and very appropriately, Mrs. Margaret Morse Nice reported on her observations of the singing of the Song Sparrow.

During the convention there were various field excursions; and a large audience was present on the occasion of the banquet.

It was voted that the next meeting of the Congress, in 1942, should be held in the United States.

Dr. Alexander Wetmore of the Smithsonian Institution was elected the new President.

THE SEASON

CXXII. April 15 to June 15, 1938

As successor to the late Charles A. Urner as editor of the 'Season's' New York Region, we are fortunate to have secured Mr. Walter Sedwitz, of 124 West 79th St., New York City. A former secretary of the Linnaean Society, and president of the local Bird Club, Mr. Sedwitz has, for a number of years, been one of the most active and expert observers of bird-migration in the New York City region, as a perusal of past 'Season' reports will show. Bird students are requested to send reports to him at the above address.

Boston Region.—The warm weather that closed the last period continued steadily through the first week in May. April was an extraordinarily hot month, with the vegetation nearly two weeks ahead of normal at its close. These remarkable conditions were fully reflected in the land-bird migration, which broke the records of seventy years in the variety of species which arrived in numbers on the earliest dates ever recorded, while the great majority of species were at least a week ahead of normal. There was marked migration on April 21 and 24; a great wave on April 28 and 29 brought no less than twenty species characteristic of the first May group; of these eleven established all-time records, and of these eleven, five arrived *in numbers* a week earlier than the earliest straggler in 70 years. There was marked migration again on May 5, 6, and 7. The day's list near Boston on April 24 was about equal to May 2 to 4 on the average; May 1 was about equal to May 11 to 13; and May 7 was about equal to May 19 to 23.

Cool weather with northwest winds arrived on May 8 and lasted until June 15. The remainder of the land-bird migration was tame and unexciting compared with the extraordinary conditions in late April. The birds trickled through steadily, with no waves or marked flights, and those species which were unaffected by the early spring were a little later than normal. A small flight of this belated group took place on May 25, after which only stragglers remained. On May 23, often the peak of the migration, 40 to 50 species of transients, including 20-odd warblers, can be found in Mt. Auburn, Cambridge. This year the morning's list was one Redstart!

As usual the shore- and sea-bird migration bore no relation whatever to that of the land-birds. The shore-bird flight was about normal on the outer Cape, the peak May 23 to 30, with the late species still present in numbers well into June. Elsewhere it was notably poor. The Terns were late, if anything, in reaching the full breeding population.

A violent southeast hurricane brought some unusual birds to New England on May 14 and 15: Snowy Egret, Bonnet Shores, R. I., May 14 (W. B. Dean); Oyster-catcher, Pt. Judith, R. I., May 14 (Kraus and Dean); Red Phalarope, 2 reports on May 15, Essex County and Nauset; Northern Phalarope, numerous reports along coast of Rhode Island and Massachusetts, May 15; Dovekie, one at Holyoke, May 15.

As usual with an early spring, there was a notable number of records of more southern species: Little Blue Heron, 3 reports; Egret, 2 reports; Yellow-crowned Night Heron, 3 reports; Turkey Vulture, 3 reports in western Massachusetts; King Rail, 2 birds heard near Boston (Griscom); Purple Gallinule, 1 found dead at Marshfield, June 11 (Hagar); Gnatcatcher, 1 at Longmeadow, May 8 (Eliot *et al.*); Prothonotary Warbler, Cambridge, May 3 (Norman Hill *et al.*); Blue-winged Warbler, 3 records near Boston, breeding at Fall River (Clement); Brewster's Warbler, 3 different males, Essex County; Cerulean Warbler, Lynn, May 8 (Lois Batchelder), May 11 (Emilio); Hooded Warbler, Northampton, May 12 and 19 (Mrs. Wakeman), Cambridge, May 19 (Griscom); Plum Island,

1♂, 1♀, May 21 and 24 (Safford); Orchard Oriole, 6 birds in all, one pair breeding, more than in many years near Boston; Cardinal, Martha's Vineyard, May 8 (Mrs. Wakeman).

The usual special comments follow: Red-throated Loon, exceptionally large flight; Double-crested Cormorant, poor flight; Great Blue Heron, remarkably small numbers; Greater Snow Goose, 15 at Wellfleet on April 23 (Broun, Clement, Drury); King Eider, 1 drake off Plum Island up to May 7 (Griscom *et al*). Hawks, height of migration in Connecticut Valley, April 19 to 24; in eastern Massachusetts, April 24 to May 1. Red Phalarope, mass migration (1000+) off Monomoy Pt. on April 19 (Griscom and Tousey). Razor-billed Auk, Monomoy, May 17 to 22 (Bishop). Long-billed Curlew, 1 at South Chatham on June 14 (Bishop), collected next day (Griscom), first record for New England in nearly 50 years. Olive-sided Flycatcher, exceptional number (8) near Boston; Acadian Sharp-tail, main flight on May 29 to June 2 (Griscom *et al*).

Signs of a very early breeding season are at hand. Least Bitterns are nesting at Foxboro, Wakefield, Woburn, and Lynnfield. There is a further increase near Boston of Crested Flycatchers, Wood Thrushes, and Indigo Buntings.—Ludlow Griscom, *Museum of Comparative Zoölogy, Harvard University, Cambridge, Mass.*

New York Region.—The mildness of the early spring, and the plentiful rains, conspired to clothe the trees, the brush, and raise the weeds many days before their normal dates. By mid-April the flora was as much as two weeks ahead of time. When the smaller land-birds did come through, the heavy foliage and deep underbrush effectively concealed the migrants from the eyes of the bird-watchers. Because of this abnormal condition, coupled with the poor weather that seemed to descend on this region each week-end during April and May, the list of rarities was shorter than usual. The big list for one day was generally dealt a blow by the rain or the adverse winds that were encountered. In the category of long lists, that of Mr. and Mrs. Cruickshank, taken on May 18, on central Long Island, was the most unusual, 148 species being noted. Mr. Urner's group in New Jersey battled through rain and wind, on May 15, to reach 151 species, well below their usual mark; while in the Bronx, Mr. Stephenson and his group hit 128 species on the 14th, a good list for that region, considering the poor migration of the date. Other Jersey and Long Island groups were under their normal big day lists.

The number of early dates for small land migrants was many more than usual, with that 'forecast' wave of mid-April sending those birds that usually appear many weeks later, along with some of our early migrants. An adult Little Blue Heron was seen at Idlewild on April 28 (J. Mayer). The same observer noted 2 Golden Plover on the 22d, at Idlewild. It might be of interest to note that for several days previous to the Plover record, northwest winds were recorded by the weather bureau, which might suggest that the birds were driven off their course by the steady, prevailing winds, and forced to the Atlantic coast. A single Semipalmated Sandpiper at Jones Beach, on the 3d (Sedwitz), was very early. Least Tern at Jones Beach on the 20th (Cruickshank) was the earliest date for that species in the region. On the 11th, at Sunken Meadow Park, 4 Barn Swallows and 2 Rough-winged Swallows were noted (Cruickshank). Several April dates were noted for the Blue-gray Gnatcatcher: 1, dead at Jones Beach, the 17th (Shainin, Jacobson, Sedwitz, and party); 1, Prospect Park, the 27th (Jacobson); 1, Central Park (Norse and Cantor). An early May date was noted at Inwood for the Gnatcatcher, May 2 (Norse and Cantor). White-eyed Vireos were noted in April; 1, in Prospect Park on the 23d (Shainin). It is curious to note that the prevailing winds previous to this date were northwest. An early date for the Cape May Warbler was noted in the Bronx, 1 on April 29 (Gell-Mann). Indigo Bunting was seen at Jones Beach on the 24th (Wolfram, McKeever, Sedwitz, Shainin, and Jacobson). All these early records in the face of a week of north and northwest winds!

Wave dates were as follows: May 3, 5, 6, fairly good waves; May 18, 21, 22, heavy waves; June 5, last wave.

The Little Blue Heron showed up at Jones Beach on June 4 (Gell-Mann) accompanied by southwest winds. A good migration of

Double-crested Cormorants was noted on southern Long Island, with over 5000 birds counted, accompanied by westerly winds (Cruickshank). American Egret was seen at Troy Meadows on May 15 (Eynon, Street, Watson). A day later one was noted at Hewlett, L. I. (Cruickshank). Several Turkey Vultures were noted at Van Cortlandt Park by many observers, and Mr. Fred Allen observed the unusual sight of 5 Vultures flying over New York Bay, in a northeasterly direction, on April 24. Marsh Hawks, migrating in May, is the only conclusion that can be drawn from the observation on May 8 at Highlands, N. J., when over 50 birds were counted flying north (Fred Allen). King Rail was noted on May 7, at Van Cortlandt (Norse, Cantor), also 1 at Brookhaven, L. I. (Cruickshank) on May 13. The Black Rail was flushed on the 20th, not far from its last year's nest, on the Jones Beach strip (Jacobson, Shainin, Sedwitz). Willet, 2, at Brigantine, N. J., was undoubtedly the eastern species (Jacobson, party). Lesser Yellowlegs were noted quite a number of times on Long Island from Jones Beach (Sedwitz) and Idlewild (Mayer). Baird's Sandpiper, a rare spring migrant, was noted at Oak Island, L. I., on April 30 (Harrower, Jacobson). Another rare shore-bird of the spring, the Hudsonian Godwit, in breeding plumage, was seen at Stone Harbor, N. J., on May 7, after days of northwest winds (Lehrman). A small flight of Red Phalaropes was noted at two points, 1, at South Atlantic Highlands, N. J., April 24 (F. Allen) and 23 birds on the 23d, at Point Lookout, L. I. (Mayer). After two days of stormy blowing a Northern Phalarope was seen at Moriches Inlet, L. I., on May 15 (Breslau, Sedwitz) and 6 at Jones Beach, the 18th (Cruickshank). An early Parasitic Jaeger was noted on the 22d, at Atlantic Beach, L. I. (Mayer); Black Terns, 20 at Jones Beach, on the 18th (Cruickshank) and 1 at Moriches Inlet, L. I. (Breslau, Sedwitz) on the 15th, were swept in at the same time as the Phalaropes. Olive-sided Flycatcher, on the 4th, Kissena Park, L. I. (Mann), is an early date for the species. Eleven Cliff Swallows in Prospect Park on the 16th (Shainin) records a sadly decimated spring migrant. Tufted Titmouse, at New Rochelle, from March 20 to May 14 (Ralph Preston) shows the northward tendencies of this species, in our region. Mockingbird, the enigma of migrants, appeared on June 1 at South Plainsfield, N. J. (John Hunn).

A Kentucky Warbler, on the Palisades, N. J., on June 12 might be a breeding bird, to add to the other pair at Elmsford Ridge, Westchester County, that probably is breeding. Also a Kentucky Warbler at South Mt. Reservation, May 19 (Storer). Mourning Warblers were noted on the 20th, Central Park (Norse, Cantor); 2, Union County, N. J., the 22d (Eynon); 2, Prospect Park, the 23d (Jacobson). Summer Tanagers were noted at two localities on Long Island, a pair at Southampton, on the 8th (Helmuth), and 1 at Jones Beach, on the 18th (Jacobson). British Goldfinches were definitely located on Long Island as residents, at Massapequa, and Mangels had 17 birds on the 8th in that general region. Two records of the Lawrence's Warbler noted with several others seen, but not reported, are of great interest: a single bird noted three times at Alley Pond Park, L. I., on the 1st, 7th, and 15th (Mann); one in song on the 3d, Prospect Park (Kraslow, Nathan).

Interesting breeding records include the following: Yellow-crowned Night Heron, 4 pair breeding, Suffolk County (Cruickshank), this constituting a new state breeding record; Upland Plover, 4 pair at Hicksville, L. I., April 19 (Cruickshank), 2 pair breeding at the same locality in May (Vogt); Black Skimmer nest with eggs, June 11, near Oak Island Beach (Shainin, Jacobson); Prairie Horned Lark, 3 pair breeding at Idlewild, L. I. (Mayer); Black-throated Green Warbler, what is probably a large breeding colony in Manahawkin Swamp, N. J., being one of the most southerly points on the Atlantic coast for this species (Urner); Bobolinks near Long Branch, with young, a very southerly breeding record (George Seely). Worm-eating Warbler, 2 pair at Cold Spring Harbor, L. I., and Yellow-breasted Chat, at Huntington, L. I., both are very unusual breeders for the island (McKeever).—Walter Sedwitz, *New York City*.

Philadelphia Region.—Abnormal weather conditions prevailed throughout the period April 15 to June 15. Late April and early May were warm and springlike. Late

May and early June were exceptionally cold. On June 1, low areas experienced a frost that browned the leaves.

A marked Warbler migration occurred during the last week in April and the first week in May. After this period of comparative abundance, migrants were scarce until after the middle of May, when for another week they were again abundant.

Lists of over 100 species were secured during the early movement. Messrs A. Clark and I. Starr III observed 133 species on May 7, stopping at various points from Chestnut Hill, Pa., to Cape May, N. J.

The most notable record of the spring was that of a female Dovekie in summer plumage, caught alive at Beach Haven, N. J., May 30, by William Marks II. The bird died soon after being captured and was given to Dr. C. Brooke Worth, who reported, "No subcutaneous fat, and muscles markedly wasted. Gross diagnosis—starvation."

A pair of Screech Owls with young out of the nest June 16, Addingham, Pa. (Culver) have struck many persons who have chanced to pass near the young. "My gardener," states Culver, "threw up his arm to protect his face from attack and received a clawing and scratching on the hand. So many trespassers have been struck and frightened by the Owls that the protection of the birds has become a real problem."

Inspection of Bald Eagles' nests in southern New Jersey and Delaware by Gillespie and Schmid resulted as follows: May 1 and 8, New Jersey nests four,—one deserted, two with 1 young each, one with 3 young; Delaware, May 15, six nests,—two deserted, four with 2 young each.

Other records of interest: Fortesque, N.J., May 22, Short-eared Owl (Whitworth); May 7, Shoveller (Clark); May 5, Black Rail (Ammann); Brigantine, N. J., April 28, Piping Plover, 60 (Groskin), May 1, 100 (I. Starr III); Pittsgrove, N. J., May 7, Prothonotary Warbler (Clark); Weymouth, N. J., April 24, Prothonotary Warbler, singing (E. W. Marshall, Jr.); Mt. Holly, N. J., April 2, Yellow-throated Warbler, 2 (Highley); one still present April 9 (Sprow); Smithville, N. J., March 31, Black-throated Green Warbler, 3 (Highley); Moorestown, N. J., May 15, White-crowned Sparrow, June 12, Bobolink, a pair apparently nesting (Haines); Tinicum, Pa., June 5, Double-crested Cormorant, 2 (McDonald); Chestnut Hill, Pa., May 1 and 3, Yellow-throated Warbler; May 15, Cape May Warbler, 7; May 3, White-crowned Sparrow (Clark); Oxford, Pa., May 7, Blue-gray Gnatcatcher (Whitworth); Addingham, Pa., May 22, Mourning Warbler (Culver); Darby Township, Pa., June 2, Mockingbird—building nest (Burte and Gillespie); Elkton, Md., April 24, Dickcissel (Clark); Port Penn, Del., May 21, Tree Swallows in solid rows roosting on telephone wires for a distance of one-quarter of a mile (Miss E. W. Brady); Whitemarsh, Pa., June 1, Upland Plover, 3 downy young, June 18, Upland Plover, adults 15 (Moore).—JULIAN K. POTTER, *Collingswood, N. J.*

Washington (D. C.) Region.—During the months of April and May there has been relatively little out of the ordinary. The weather has been continuously moderate with the temperature of no day rising above 87°, and with much rain during the month of May. The movement of migratory birds was rather early and in good volume. Such species as the White-crowned Sparrow, White-eyed Vireo, Prairie Warbler, Yellow-throated Warbler, Maryland Yellow-throat, Oven-bird, and a number of others, arrived a week or so in advance of their usual time, and many others were also somewhat ahead of time. Furthermore, the Black-poll Warbler, reported by Howard Kraslow, in Rock Creek Park, at Washington, on April 24, was almost as early as it has ever been recorded in this region. The Greater Yellow-legs, Lesser Yellow-legs, and Barn Swallow, reported by A. Laurence Curl at Four Mile Run, Va., on April 3, were also decidedly early. Of particular note, likewise, is the appearance of the American Egret on May 19, south of Alexandria, Va., and of 8 to 10 individuals of the same bird on May 26, at Hunting Creek, Va., both reported by Dr. W. B. McIlwaine, Jr.

Notwithstanding the early character of the migration as a whole, a few species that evidently forgot that this was an early season remained much later than usual. Three Baldpates were seen by A. Laurence Curl at the Roaches Run Sanctuary, Virginia, on April 23. This is another instance of the at-

tractiveness of this sanctuary, which all bird-lovers hope will not be destroyed by threatening developments in the city of Washington. Apparently almost all the water-birds that visit the Potomac River find at this sanctuary other bird company and favorable environment that attract them, and therefore they pay this refuge a visit while on the Potomac River. The Bonaparte's Gull was seen by Dr. W. B. McIlwaine, Jr., on May 19, along the river south of Alexandria, Va. Still another very late visitor, the Nashville Warbler, was reported by the same observer near Fort Hunt, Va., on May 30.

The Prothonotary Warbler seems still to be a regular though rare summer resident in this vicinity. Dr. W. B. McIlwaine, Jr., reported it on April 2, along the Potomac River below Alexandria. He also noted the Least Bittern near West Grove, in the same vicinity on the same date. The Caspian Tern, which is also always an interesting species on the Potomac River, was seen by the same observer on Hunting Creek on April 25, but only a single bird. Thirteen Shovelers were seen by A. Laurence Curl at Four Mile Run on April 3. This is one of the less common Ducks in the vicinity of Washington, and the recording of so many individuals at this time of year is worth mention.

Perhaps the most interesting occurrence during the period of the present report is that furnished by Mrs. Ralph Lawrence, who reports seeing a pair of Pine Grosbeaks on April 11, in the northern part of the city of Washington, near the intersection of 14th and Decatur Streets, Northwest. Both birds were watched for a considerable period on this day at close range, with adequate opportunity of seeing all their markings, and comparing them with other birds of similar size near-by. The very satisfactory description, and the circumstances under which these birds were observed, seem to leave no doubt of their proper identification.

Records of breeding birds in the vicinity of Washington may be of interest as indicating the times of nesting. A nest with eggs of the Song Sparrow, on April 27, near Alexandria, Va., was found by W. B. McIlwaine, Jr. W. H. Lawrence reports another nest of the same species at Laytonsville, Md., on May 30; and also at the same place and on the same date nests with eggs of the Catbird, Meadowlark, and Red-wing.

J. O. Stevenson likewise reports a Prairie Horned Lark feeding a single young bird in Potomac Park, on May 21, on which date the male was still singing. He also observed on May 30 a Grasshopper Sparrow's nest with eggs, at South River, three miles south of Parole, Md.—HARRY C. OBERHOLSER, *U. S. Biological Survey, Washington, D. C.*

Pensacola (Florida) Region.—Normal weather prevailed throughout the period. A slight excess of rainfall was not sufficient to overcome the deficiency of the early part of the year, and the present period ends with rivers and creeks still at low level and most of the upland ponds dry.

The scarcity of spring migrants reported in the preceding period continued through the present one, and the spring migration as a whole has been the most disappointing I have ever known in this region. Coastwise observers for long distances both east and west of Pensacola have reported similar conditions.

A trip to Mobile, Ala. (70 miles to the westward), on May 11 yielded an interesting list of birds in the great delta marshes at the head of Mobile Bay. Notable among them were several American and Snowy Egrets, 2 Coots (very late), Barn Swallows extremely abundant and all flying eastward, several Tree Swallows (the latest ever noted in this region), and Marian's Marsh Wren abundant and in full song.

Of incoming migrants, a Ruddy Turnstone seen on April 16 was the earliest ever recorded. Other arrival dates include: Wood Pewee, April 17; Scarlet Tanager (irregular), April 20 (Mrs. A. L. Whigham); Mississippi Kite and Prairie Warbler (rare), April 23; Anhinga (rare), Yellow-billed Cuckoo, Acadian Flycatcher, Swainson's Warbler (rare), and Least Tern, April 24; Cabot's Tern, May 8; and Black Tern, May 26. These last two had probably arrived earlier as both were common on the first day seen.

Mr. J. O. Stevenson, of the National Park Service, reported an American Oyster-catcher on April 23—a very rare species on this coast. On June 4, an adult Gannet was seen off the outer beach and was by far the latest of these rare visitors I have ever known. Be-

cause of the late date, the question was raised at first if the bird could be a Blue-faced Booby instead of a Gannet, but a closer view clearly showed the white tail of the latter instead of the black-tipped tail of the Blue-faced.

Several winter residents stayed later than ever before recorded: Double-crested Cormorants were seen almost daily up to May 26; 2 Loons were seen in protracted flight on May 29—Loons seen occasionally in summer are always cripples incapable of free flight; a single Ring-billed Gull seen on May 29 was the latest adult ever noted, although immature birds are sometimes seen in summer. A flock of 14 White Pelicans, reported by F. Bray on June 11, were almost a month later than ever before recorded. Other departure dates, well within the extremes of former years, include: American Golden-eye and Duck Hawk (rare), last seen on April 16; Blue-winged Teal, April 17; Myrtle Warbler, April 23 (Mrs. Whigham); House Wren (rare this season), Scarlet Tanager, and Savannah Sparrow, April 24; White-throated Sparrow, May 2 (Mrs. Whigham); Catbird, May 4 (Mrs. Whigham); Cedar Waxwing, May 8 (Mrs. Whigham); Black-bellied Plover, Lesser Yellow-legs, and Spotted, Solitary, Least, and Red-backed Sandpipers, May 11; Barn Swallow, May 15; Yellow Warbler, May 16 (A. Sheppard); Ruddy Turnstone, Dowitcher, and Herring Gull, May 26; and Lesser Scaup, Semipalmated Plover, Semipalmated Sandpiper, and Sanderling, May 29.

Nesting data include: nest and 3 eggs of the Cuban Snowy Plover, April 16; White-eyed Vireo incubating, April 24; Pileated Woodpecker and Florida Chickadee, small young in nests on May 1; Flicker, small young in nest, May 13; Killdeer (a very rare breeder this far south), 4 young birds about a week old, May 13; first nest of the Least Tern, May 26; eggs of the Nighthawk just hatched, June 5; and Wood Duck with half-grown young, June 15.—Francis M. Weston, *2006 E. Jordan St., Pensacola, Fla.*

Dayton (Ohio) Region.—The early part of the period was characterized by unseasonably warm temperatures and less than normal rainfall. The second week of May brought low temperatures with severe frost in some sections, and this was followed by a return to normal temperatures and excessively heavy rains. From May 6 to May 17 the weather was consistently disagreeable yet the wealth of reports received from numerous observers indicates no lack of activity in the field.

Observers agree that many migrants arrived early and nearly every report includes a number of remarkably early dates, yet these are almost balanced on the whole by other species which arrived later than usual. A few of the outstanding cases of early arrival follow: Least Bittern at Toledo and at Newark on May 1 (Campbell and Claugus); Nighthawk at Cleveland on April 23 (Knight); Wood Thrush on April 10 at Newark (Claugus); Black-billed Cuckoo at Dayton on April 30 (Blincoe); Prairie Warbler in Hocking County on April 16 (Walker); Blue-winged Warbler in Pike County on April 22 (Hicks); Prairie Marsh Wren at Salem on April 23 (Baker); and Hooded Warbler in Ottawa County on April 30 (Brandenburg).

One is impressed with the uniformity of arrival dates for some species for which records are available from all parts of the state. Thus the first House Wrens were reported from 10 widely separated localities between April 15 and 19, and dates of arrival for the Chimney Swift from nine representative localities all fall between April 15 and 20. Other instances could be cited during April and early May. The story is quite different with some of the later migrants, which may possibly have been retarded by the cold weather which prevailed generally from May 11 to 14. The Nighthawk and Ruby-throated Hummingbird, both present in some localities in April, were not noted in other places until May 16 to 20.

The peak of the northward migration seems to have occurred a few days earlier than usual, in most cases between May 8 and 14. At Salem, Baker reports the greatest number of migrants May 20-21, while, at Canton, Ball finds the peak between May 19 and 22. The largest single day's list reported was that of Claugus in Licking County, May 8—150 species, 29 of which were Warblers. In view of the heavy rainfall and the abundant supply of temporary ponds it is interesting to find that few ob-

servers report any unusual shore-birds. Exceptions that justify mention are: Black-bellied Plover at Canton on May 27 (Ball) and at Toledo on several dates in May, with a maximum of 200 individuals (Campbell); Northern Phalarope and Hudsonian Curlew in Licking County (Claugus); and Knot at Toledo on June 11 (Campbell). Few transient birds of any kind are reported after May 26, but a normal late migration is indicated for the Connecticut Warbler which was reported from seven localities between May 16 and 30.

A large flight of Broad-winged Hawks estimated to have included about 400 individuals, occurred on April 25 in Ottawa County (Brandenburg), and at Toledo a laggard Rough-legged Hawk was seen May 22 (Campbell). From the Youngstown region come reports of two rarities, Lawrence's Warbler on May 13 and European Teal on April 15 (Minick). At Cuyahoga Falls the White-winged Scoter was reported May 25, an unusually late occurrence (Mitchell). The Caspian Tern, rare inland, was seen at Canton on May 7 (Ball) and in Licking County on April 24 (Claugus).

Among the many interesting nesting records available we note that at Salem a nest of Wilson's Snipe with 4 eggs was found on April 27 (Baker); in Scioto County a Pine Warbler's nest on April 29 (Chapman). At the Pymatuning Reservoir no less than 12 species of Ducks have been observed well into June and are believed to be nesting. The list includes such notable species as Ruddy, Redhead, and Ring-necked Duck, Gadwall, Baldpate, and Green-winged Teal (McLaughlin).—C. F. WALKER, *Dayton, Ohio.*

Chicago Region.—The temperature over the two-month period fluctuated gradually about normal with no significant extremes. During April 15 to May 14 there was slight precipitation on 9 days. However, the rainy period from the latter date to June 15 will be remembered as long as the dry spring of '34; for the precipitation, scattered over 18 days, totaled 7.16 inches, with 6 additional days on which only traces (probably considerable only as local showers) were recorded.

Comments from observers on the May migration are consistent only in that it was poor, being spread over the month rather than concentrated into a number of regional waves. Observed waves of Warblers, etc., restricted to perhaps three or four abundant species, were only local in extent and reported on different dates by several observers.

Some of the interesting records for the period follow: European Widgeon, McGuiness Slough, May 7 (Himmel); European Little Gull, Lincoln Park, April 29 (Dreuth); Marbled Godwit, Chicago Ridge, May 1 (Mrs. Baldwin, Wiles, and Bartel); Northern Phalarope, Lincoln Park, May 3 (Dreuth); Wilson's Phalarope, Lake Calumet, May 12 (Stein); Baird's Sandpiper, McGuiness Slough, May 10 (Mrs. Baldwin); White-eyed Vireo, McGuiness Slough, May 1 (Stein); Gambel's Sparrow, Lincoln Park, April 29 (Nork) and May 3 (Dreuth and Clark); Lark Sparrow, Lincoln Park, April 29 (Nork).

There are 10 reports of the Clay-colored Sparrow from Lincoln Park (Dreuth and Nork) between May 2 and 24. More than the usual number of Red-bellied Woodpeckers was reported for late April and May from scattered points in the Chicago region. Reports of the Western Meadowlark in localities other than those north and northwest of Chicago are April 20, again at Lincoln Park (Dreuth); June 12, Kinsman Golf Course, 5 miles west of Orland (Pitelka); June 20, Chesterton, Ind. (Hawkinson).

Unusually late dates of migrants follow: Buffle-head, McGuiness Slough, April 30 (Himmel); Rough-legged Hawk, Evergreen Park, May 3 (Mrs. Baldwin); Red-breasted Merganser, McGuiness Slough, May 30 (Johnston); Green-winged Teal, McGuiness Slough, June 8 (Nork); Olive-sided Flycatcher, Deerfield, June 18 (Pitelka); Blue-headed Vireo, Lincoln Park, May 31 (Dreuth); Connecticut Warbler, Chicago, June 12 (Stein).

Nesting records, etc.: Woodcock, Niles Center, May 2, 4 fresh eggs collected (Franzen); Sparrow Hawk, Dalton, April 28, 5 fresh eggs collected (Franzen); Screech Owl, Lyons, May 24, young out of the nest unable to fly (Johnston); Cliff Swallow, Blue Island, 80 occupied nests (Reuss); Migrant Shrike, Deerfield, June 17, adults feeding 3 almost fully grown young (Pitelka); Blue-

winged Warbler, Deerfield, June 13, 6 well-grown young in nest.

A remarkable number of summering species were again found at Deerfield on a tract of land bordering the Desplaines River, privately owned, fortunately, and well patrolled for trespassers. Here (June 13 and 17 and 18) the Yellow-throated Vireo was more abundant than the Red-eye; both the Acadian and Alder Flycatchers were present—in their respective, characteristic habitats, of course; the Cerulean Warbler was comparatively abundant. The Warbler population included the Golden-winged, Blue-winged, Brewster's, Nashville, Yellow, Cerulean, Oven-bird, Yellow-throat, and Redstart.

The Nashville Warbler, found June 13 and heard again June 18 (Pitelka), is apparently the first record of this species as a summer resident since Nelson classified it as such (see Ford, Sanborn, and Coursen's *Birds of the Chicago Region*). The Golden-winged Warbler ♂ was found mated to a Blue-winged Warbler since both were observed on June 18 (Pitelka and Stein) taking care of a brood of young out of the nest, totaling at least 3, all of which conformed to descriptions of the juvenile Blue-winged. One male Brewster's Warbler was observed in full song, the song being indistinguishable from that of a Blue-winged Warbler singing near-by. Another Brewster's Warbler, very likely a female and differing from the first in pattern of coloration, was observed feeding a brood only 2 young of which were observed side by side when it was apparent that one was a typical juvenile Blue-wing and the other, decidedly grayer, was a juvenile Brewster's. The Brewster's Warblers were also observed on June 18 (Pitelka and Stein).

Also for the first time since Nelson's record in the '80's, there is a definite record of the breeding colony of Forster's Terns at Grass Lake, studied June 4 by von der Heydt and Allen. Ten nests were found in a reed island in the lake and 12 to 14 pairs of Terns were present. On the above-mentioned date, one nest contained 2 young and 1 egg, which was collected and deposited in the Field Museum collection; 2 nests contained 1 young each; 4 nests contained no young, 3 eggs each; 3 nests contained no young or eggs, but there were evidences of previous occupation.

Correction: The date for the Western Meadowlark (McGuiness Slough, Himmel) reported as 3-10 in the May-June issue should have read 3-19.—Rudyerd Boulton and Frank A. Pitelka, *Field Museum, Chicago, Ills.*

Minnesota Region.—The spring was wet and cool throughout the state. Rainfall exceeded normal by several inches. Flooded lowlands and flooded and washed-out highways caused much damage and loss. Meadows, sloughs, and lakes have been over-full, causing the destruction of great numbers of early water-fowl nests and nestlings. All this has, however, been a great boon to the drought-stricken farmers whose crops, as well as wild vegetation, are once more flourishing mightily. The artificially controlled lakes, of which there are now some 250 in the state, are well filled, but it will take much more and continued rainfall to bring back the larger long-wasted lakes. For nearly two weeks following May 5 the weather was unseasonably cold, with heavy rains, and on the 5th snow in the northwestern part of the state and on the 8th a fall of six inches of wet snow in the Lake Minnetonka region while the apple trees were in bloom. Skits of snow and cold rain at Minneapolis and over much of the state and the Dakotas on May 17. Again light frosts in northwestern Minnesota on June 6.

Mrs. Davidson in a review of the spring migration at Minneapolis writes: "The season was marked by a concentration of migrants from about May 6 to the 24th. I was out 29 of the 31 days in that month. Ten of these days saw from 80 to 101 species and averaged for the period of little over 66 species, and this in spite of the scarcity of shore-birds and but few migrating Sparrows. April 26 saw 7 species of Hawks but few individuals. The largest Warbler waves were on May 6, 17, and 20. Most migrants seemed to depart *en masse* the night of May 27. That day saw 94 species and the next day only 43." The University Bird Class records for some 14 field-trips showed a marked scarcity of the usually common Sapsucker, Bobolink, Brown Creeper, Indigo

Bunting, Scarlet Tanager, Lark Sparrow, Harris's Sparrow, and White-crowned Sparrow.

From very full records of the migration for the Twin Cities area submitted for the museum files by Mrs. Davidson, Mr. Swedenborg, Mr. Rosenwinkel, and others, only the following items, to show the progress of the season, can be included here.

April 16, Swamp Sparrow. 17th, Greater Yellow-legs, Towhee, Savannah, Field, and White-throated Sparrows. 20th, American Bittern. 21st, White-crowned Sparrow. 22d, Bank and Rough-winged Swallows. 23d, Orange-crowned and Black-throated Green Warblers and Grinnell's Water-Thrush. 24th, Brown Thrasher (nest May 18) and Leconte's Sparrow. 26th, Ferruginous Rough-leg Hawk (Mrs. Davidson), rare here, House Wren, Nashville and Palm Warblers, Louisiana Water-Thrush, and Clay-colored Sparrow. 27th, Olive-backed Thrush, Black and White Warbler, and Lincoln's Sparrow. 29th, Woodcock nest, 3 eggs, Catbird (nest May 28), Gray-cheeked Thrush, and Blue-headed Vireo. 30th, Kingbird, Barn Swallow and Harris's Sparrow.

May 1, Florida Gallinule and Henslow's Sparrow. 2d, Alder, Least, and Olive-sided Flycatchers, Yellow Warbler, Veery, Northern Yellow-throat, Baltimore Oriole, and Rose-breasted Grosbeak. 3d, Black Tern, Crested Flycatcher, Yellow-throated, Warbling and Red-eyed Vireos, Tennessee Warbler, Redstart; lilacs and apple trees in bloom. 5th, Blackburnian and Wilson's Warblers, Oven-bird and Grasshopper Sparrow. 6th, Golden-winged, Magnolia, Chestnut-sided, and Black-poll Warblers, Scarlet Tanager, and Wood Thrush (nest the 17th). 9th, Parula and Canada Warblers, Hummingbird, large flock of Lapland Longspurs (Davidson). 12th, Cerulean Warbler, Bobolink. 13th, Wood Pewee, Bay-breasted Warbler, Indigo Bunting. 14th, Philadelphia Vireo, Cape May Warbler, and Orchard Oriole. 20th, Mourning Warbler.

The large migration of Lesser Scaups showed a great disparity in sexes, some counts as great as 1 female to 9 males. Ratios for other species reported by Messrs. Hawkins, Woolsey and Stein from actual counts: Blue-winged Teal, 29 males, 10 females; Shoveler, 28 males, 16 females; Canvas-back, 35 males, 15 females; Redhead, 54 males, 35 females; Lesser Scaup, 289 males, 57 females.

From a list of 'firsts' sent by Mrs. C. E. Peterson of Lac qui Parle County in the west-central part of the state (prairie) these are selected: April 17, Gambell's Sparrow and Cowbird. 20th, Franklin's Gull. 26th, Lincoln's Sparrow, Towhee, and House Wren. May 12, Western Kingbird. June 2, last White-throated Sparrow.

Miss Olga Lakela, of Duluth, reports that there are again several pairs of Piping Plovers nesting on Minnesota Point from May 15 on; also one pair of Common Terns. It is rather surprising to find how late some of the far-northern-nesting shore-birds remain on this Point. Miss Lakela writes under date of June 20: "There are Least, Semipalmated, and Baird's Sandpipers still on the Point. I saw them there this morning. Yesterday I saw one Turnstone; June 15 there was a flock of several. June 11 is my last date for the Red-backed Sandpiper; June 10 for the Black-bellied Plover; June 15, Sanderling and Semipalmated Plover; June 19, Pectoral Sandpiper. Caspian Terns and Bonaparte's Gulls I see often. The large flocks of shore-birds came the last week of May. I did not see the Golden Plover this year. A single Hudsonian Curlew I saw on four consecutive days."

Miss Eleanor B. Jilson, of St. Paul, who goes to Frontenac on Lake Pepin twice every year in the interest of bird-study, sums up her report for the past season as follows: "In many ways this was the most unsatisfactory May migration that I have seen at Frontenac in many years. The Warblers were scarce in variety and numbers. There were almost no Sparrows and the lake was so high that the beaches upon which the shore-birds congregated formerly were wholly under water [chiefly because of one of the many federal dams constructed to improve navigation on the upper Mississippi River]. Even the Gulls and Terns were not numerous. On May 18, 19, and 20 there were immense flocks of Swallows, mostly Tree, with some Bank and Cliff. On the 20th the flocks were the largest that I have ever seen. I saw 3 pairs of Blue-gray

Gnatcatchers and found one completed nest on which the bird was sitting. Several days later, after three days of heavy and continuous rain, the birds were pulling the nest to pieces and using the lichens which covered it in the building of another nest near-by." A report from Frontenac for May 13 to 15 inclusive by Mr. Lester R. Badger corroborates Miss Jilson's findings as to the scarcity of migrants.

A two-year's report by Miss Fern Zimmerman, for Cloquet up near Duluth, gives dates mostly 10 or 12 days later than at the Twin Cities. Included is the Pine Warbler for May 9, 1937, and May 7, 1938, a bird that is a common breeder in the evergreen forests but strangely absent of late years from migration records in southern Minnesota.

Reports of the Starling continue to come from all over the state and it is plainly increasing in numbers and spreading widely. —Thos. S. Roberts, *Museum of Natural History, University of Minnesota, Minneapolis, Minn.*

Rio Grande Delta Region.—In the main, drought conditions prevailed throughout the period. Whereas last year there was considerable rain during May, this year that month was also deficient in rainfall. There were local thunder showers accompanied by wind and hail on May 26 and 27. However, the total precipitation was insufficient appreciably to help the ponds, which failed to make a complete recovery during the winter from last year's drought, and the wind and hail destroyed thousands of eggs and young of the nesting birds. By the end of the period even the Rio Grande had ceased to flow.

There was a better than usual hatch of Mottled Ducks—one or two broods of young were found at almost every pond visited the first of June. No doubt at a number of places they were left stranded by the complete drying up of the ponds.

Although the migration started early this spring it was slowed down by the cold spell in April (mentioned in last report) and afterward developed into the most drawn-out movement the writer has observed. This resulted in the establishment of several new 'last seen' records. Some of the last seen records are as follows: April 10, House Wren; May 1, Sora, Marsh Hawk, Sparrow Hawk (Mrs. Denzer), Shrike; May 10, Hooded Warbler, Rose-breasted Grosbeak; May 12, Gray-cheeked Thrush, Olive-backed Thrush, Catbird; May 15, Redstart, Chestnut-sided Warbler, Yellow Warbler, Black-throated Green Warbler, Black and White Warbler, Eared Grebe, Lincoln's Sparrow, Arkansas Kingbird, Louisiana Water-Thrush; May 17, Magnolia Warbler; May 28, Duck Hawk; June 5, Franklin's Gull (Hale); June 6, Bank Swallow (Hale), Pewee.

Some of Mr. Hale's migration records for the Mission area are: April 18, Dwarf Cowbird; April 20, White-winged Dove; April 22, Dickcissel; April 23, Franklin's Gull, Chimney Swift, Barn Swallow, Pewee, Tennessee Warbler, Redstart, Northern Water-Thrush, Yellow Warbler, Indigo Bunting; April 25, Hooded Warbler; April 27, Whip-poor-will; April 30, Ash-throated Flycatcher, Yellow-billed Cuckoo; May 1, Yellow-legs, Groove-billed Ani, Wilson's Warbler; May 5, Yellow-headed Blackbird, Mourning Warbler; May 6, Alder Flycatcher, Least Flycatcher, Yellow-bellied Flycatcher; May 8, Wilson's Phalarope, Stilt Sandpiper, White-rumped Sandpiper, Pectoral Sandpiper, Least Tern; May 15, Red-backed Sandpiper, and White-faced Glossy Ibis.

Some of the Cameron County records are: April 21, Mississippi Kite; April 24, Yellow-billed Cuckoo, Golden-winged Warbler, Chestnut-sided Warbler; April 27, Groove-billed Ani; April 29, Catbird, Baltimore Oriole; May 1, Warbling Vireo, Olive-backed Thrush, Black Tern, Marbled Godwit; May 5, Canada Warbler; May 8, Wilson's Phalarope, Rose-breasted Grosbeak, Yellow-throated Vireo, Bay-breasted Warbler, Oven-bird, Blackburnian Warbler.

Several hundred 'northern' Ducks are summering here this year. Among them are at least 12 Redheads and 16 Ruddy Ducks; the others are Lesser Scaup (commonest), Shoveller, Pintail, and Blue-winged Teal. Both males and females of all species occur but the males are much more common except among the Scaups and Ruddies where we find more females. Mr. Hale reports a Shoveller on a pond near Mission during June—this is the first summer record there.

The Rose-throated Becard mentioned in the last report was lost for several weeks after it moved out of the heavy thicket in which it was first found—it was presumably driven out by woodcutters who were active there at the time. It was again discovered in a hackberry grove about a quarter of a mile away where it had taken up a regular 'territory.' At this place the woods are more open and the bird is more readily studied. A number of notes on its habits have been obtained. Not until May 8 was it observed to use the preliminary notes to its call, which seems to be quite distinct and peculiar to this species. The writer was pleased to show this bird to Mr. Guy Emerson of New York who was visiting here on May 28. The full call was used several times on that day. When thus given the call is identical with that given by a female observed by the writer near Valles, San Luis Potosi, on April 18. Not a single male was discovered on this trip to the south which was made for the purpose of studying this species. The female is considerably larger than the male and the one observed had a distinct, contrasting collar which is not apparent in the male here.—L. IRBY DAVIS, *Harlingen, Texas.*

San Francisco Region.—Facts concerning the change in status of bird species may be the most important items reported in this department. Several examples of such change have been reported for this season. Laidlaw Williams writes that neither the Brown Pelican nor the Brandt's Cormorant nested this year where they ordinarily do at Point Lobos. This has been known as the northernmost nesting-place of the former species which has been present through this season in numbers up to more than 400, but no nests were made. Mrs. Stephens writes of her rediscovery of a colony of California Murres in the vicinity of Pedro Point, San Mateo County, where the species is known to have nested formerly. On June 5 she saw 150 or 200 of the birds massed closely together and on June 11 about 100 scattered in small groups. A new highway passes close to this point. These birds were seen also on June 8 and 10 by the Parmenters. Mrs. Allen has found the Cassin's Vireo scarce and the Hutton's Vireo absent on her trips, widely scattered over central California, this spring. Both species, however, have been observed regularly in the Santa Lucia Mountains.

Some dates of last occurrence in spring for wintering birds are as follows: Black Brant, Tomales Bay and Bodega Bay, May 26 to June 1 (Parmenters); Glaucous-winged Gull, Bodega Bay, June 1 (P.); Ring-billed Gull, Tomales Bay, May 26 (P.); Varied Thrush, Larkspur, May 12 (Mrs. Courtright); Golden-crowned Kinglet, Larkspur, April 19 (C.); American Pipit, 1 at Dumbarton Bridge, April 21 (P.); Audubon's Warbler, Berkeley, April 17 (Mrs. Allen); Golden-crowned Sparrow, Carmel, May 2 (Williams).

Arrival dates for a few species are available as follows: Heermann's Gull, 32 at Montara, June 10 (P.); Wood Pewee, Palo Alto, April 27 (A.); Olive-sided Flycatcher, Carmel, April 17 (Edna Owings), Santa Lucia Mountains, April 22 (L.); Russet-backed Thrush, Carmel, April 17 (O.); Yellow Warbler, King City, Monterey County, April 19 (W.), Berkeley, April 19 (A.), Monterey Peninsula, April 22 (W.), Santa Lucia Mountains, 1600 feet, April 24 (L.); Black-throated Gray Warbler, Santa Lucia Mountains, April 9 (L.); Bullock's Oriole, Santa Lucia Mountains, April 8 (L.), Lake Merced, April 30 (H. Kirker); Lazuli Bunting, Monterey, April 25 (O.); Black-headed Grosbeak, Monterey, April 22 (W.), Santa Lucia Mountains, April 9 (L.); Chipping Sparrow, Monterey, April 22 (W.).

Several other records of special interest have been received. The Parmenters saw about 500 Sooty Shearwaters, the first of the season, on May 6, off the Cliff House. After that the birds were seen on ten different days. The longest line was northward bound, observed from Landsend to near Montara on May 21, where about 38,000 were seen from 12.20 to 2.15 P. M. Counts showed 310 birds passing per minute. On the same day a raft of about 10,000 was feeding between Mile Rock Lighthouse and Bakers Beach. On May 30 a small raft was seen off Thornton. The same observers saw about 5000 Shovellers near Alvarado on April 21 and only 30 there on May 2. They recorded the species five times between April 19 and May 12. Williams, at Carmel Lagoon on April 25, observed 5 Black Brant which lit on the sand-bar. He saw 9 at Moss Landing on

May 5. Numerous mentions of Osprey are found in the notes for the last few weeks, as follows: Drake's Estero, June 6 (P.), Lake Merced, April 7 (G. Bolander), Salinas River Mouth, May 5 (W. and Mrs. Kelly), Santa Lucia Mountains, April 21 (L.). Mrs. Kelly and the Stephenses on May 8 saw a Golden Plover on Bay Farm Island that had been reported several times after April 25. A single Black-necked Stilt was seen at Bodega Cliff on April 27 (P.). Williams was able to find only one Northern Phalarope in the whole season in Monterey County. This was at the mouth of the Salinas River on May 5. Calliope Hummingbirds were reported from Berkeley on May 7 by Mrs. Kelly.

The nesting season, despite its prolonged beginning, was drawing to a close rapidly by the middle of June. Storm periods, accompanied by rain, occurred in April around the 5th, 13th, 25th, and 30th. The next six weeks were without rain. The weather was markedly different from that of last year, but the actual times of nesting seemed not very different. The climatic contrasts were much greater than the differences in bird-nesting calendar for the two years.

Injury to birds from oil on the ocean was reported by Mrs. Allen who at Monterey on April 28 found innumerable Brown Pelicans, Cormorants, Loons, Mergansers, and Scoters dead on the beach opposite Del Monte Hotel, all oil-soaked.—JEAN M. LINSDALE, *Museum of Vertebrate Zoology, Berkeley, Calif.*

WPA REVISES DRAINAGE PROJECT REQUIREMENTS

The Works Progress Administration has recently made radical changes in its requirements having to do with mosquito control and other drainage projects that might possibly affect wild life, according to advices from Washington. All such projects are now subject to review by the U. S. Biological Survey, and sponsors must "agree to take over, operate and maintain the work completed under the project. . . .

"In the case of mosquito control, information as to the center of population nearest the area to be treated, its population, and the type of mosquito to be controlled, should be included in the information to accompany the . . . application. All drainage and water-control project applications . . . shall be accompanied by a certification from a responsible permanent agency assuring the proper future maintenance and operation of such structures."

Ditches are not to tap permanent ponds, according to the requirements; water-tables are to be maintained; cover is not to be destroyed; and biological means of control "should be used wherever possible."

George Bird Grinnell Dies

George Bird Grinnell, founder of the first Audubon Society, and originator of the name, died on April 11 at the age of eighty-eight. As a boy he was a pupil of Lucy Audubon and when, in 1886, through his magazine *Forest and Stream* he formed a voluntary association for the protection of birds, he called it the Audubon Society. An explorer, naturalist, writer, publicist, sportsman, and fighter for conservation, he was one of that small band of far-sighted men that, even in pioneer days, could look ahead to times of dust-storms and dearth of wild life. He campaigned for national parks and for constructive wild-life protective laws. Because he was relatively inactive during recent years, few people of this generation have any appreciation of Dr. Grinnell's services in behalf of America's outdoors. Without exaggeration it may be said, however, that few men have contributed as greatly to conservation in this country as he.

BOOK NEWS AND REVIEWS

A Book of Birds. By Mary Priestley. The Macmillan Company, New York, 1938. 384 pp. $2.50.

This is one of the most attractive anthologies for bird-lovers that I have come across. None of the passages in Mrs. Priestley's collection are very long, and most of them are of the descriptive and literary type that make the book one to be picked up when only a few moments of leisure are available, or in the quiet pause that comes between climbing into bed and putting out the light. No better bedside book could be found. It is not a book to be gone through at a sitting but one to be kept close at hand and opened at random for ten minutes or a half-hour of delightful reading.

Since the compiler is English, British writers naturally predominate. Old Gilbert White, the father of contemplative nature writing, very properly leads the list. Extracts from the deceptively simple writing of W. H. Hudson are, of course, included. Older writers and moderns alike are there, literary men as well as those who are naturalists first and then good writers. America is not neglected. Mrs. Priestley has turned up passages that she likes and that will be liked by her readers from Audubon and Peter Kalm down to Beebe, Sutton, and Peattie. There are some unexpected but welcome sources. Sir Francis Drake, for example, enters twice. Evidently much attracted to the bird literature of the Antarctic expeditions, she has extensive extracts from the journals of Scott and Ross and Levick.

Necessarily the choices are due to personal taste but Mrs. Priestley's tastes are catholic enough to please all readers. Omissions inevitably come to mind. It is impossible for the reviewer to understand, unless it is a matter of copyright difficulty, why Lord Grey is left out. But it is Mrs. Priestley's book, and the rest of us cannot have everything we want. With print and binding appropriate to the quality of the text, the book is illustrated with 82 wood engravings by C. F. Tunnicliffe, depictions satisfying to the ornithologist as well as first-class drawings. A pleasingly disproportionate number of them are of birds familiar to Americans. All in all it is a book to be treasured.—J. J. Murray.

John of the Mountains. The Unpublished Journals of John Muir. Edited by Linnie Marsh Wolfe. Houghton Mifflin Company, Boston, 1938. 459 pp. Illustrated. $3.75.

One of our very first great conservationists, John Muir, mountaineer and wilderness-lover, wrote some seven books. Much of the material for these is based on sixty journals written over a period of forty-four years, from 1867 to 1911. The editor of the present volume has aimed "to salvage and give to the world, in this centenary year of his birth, the best of John Muir's writings yet remaining in his unpublished notes. . ." These new extracts from his journals concern his wanderings among the great sequoias and over the rugged Sierran peaks. It also includes entries made on two trips to Alaska. "Having shared the hardships of his wanderings, his notes, mostly written in pencil, are not easy to read after the lapse of years [says our editor]. Many were scribbled by flickering campfires when his body was numb with fatigue; or in the dark lee of some boulder or tree while the storm raged without. . . ." But the result is always a direct, vivid, first impression of a mighty Sierran glacier, the solemnity of a grove of Big Trees, or the charm of the American Dipper's personality

which could never be improved upon by rewriting at leisure.

Of all the birds he encountered his favorite seems to be the Water Ouzel or American Dipper, which loves the madly rushing torrents as Muir, himself, so fervently did. "They are little dun nuggets of water music," he says, "as if the brown pebbles over which the river has sung for ages had at length been overgrown with feathers instead of mosses, and flown away."

Muir was one of the most potent personalities responsible for the creation of our National Forests and Parks. He loved the wilderness with an intense passion and could not endure the sight of great sequoias turned into lumber, which fate fell to many of them before his efforts for preservation were successful. As early as 1872 he felt the need of mountain and forest reservations in order that people might "Gain health from lusty, heroic exercise, from free, firm-nerved adventures. . . ." He felt their need to "enjoy the utter peace and solemnity of the trees and stars. Find many a plant and bird living sequestered in hollows and dells—little chambers in the hills. Feel a mysterious presence in a thousand coy hiding things."

Certainly he never anticipated the thousands who now crowd our National Parks each summer, many of them, alas, not "living as true to Nature as those grey and buff people of the sequoias and the pines." But the impression one gets from reading such passages is that he was not the complete hermit who never wanted others to invade his vast retreat. Rather one feels his greatest aim was that his fellow man should go to the mountains and share with him his keen delight in them; and that these should be as sanctuaries forever.—LAIDLAW WILLIAMS.

BIRD FLOCKS AND THE BREEDING CYCLE. By F. FRASER DARLING. Macmillan Company, New York, 1938. 124 pp. Illustrated. $1.75.

The announcement on the cover of this little book states that it is of interest "not only to scientists but to amateur bird-observers." The intelligent amateur will certainly find it a welcome addition to his library, not only because of the clear and concise way in which various aspects of the bird's life are reviewed, but especially for the way in which it suggests the enormous possibilities of bird-watching as a scientific tool.

The book consists of three general discussions: "Sexual Periodicity," "Breeding Flocks of Gulls," and "Communal Courtship," and a conclusion. There is an appendix listing and describing the types of display in Gulls.

The author elaborates two closely related new theories of considerable importance, one psychological, the other ecological. In the first place he demonstrates, most convincingly, for various species of colonial sea-birds, that the larger the flock, the better synchronized are the nesting-periods of the pairs composing it. In other words, a larger colony would have a shorter total period of nesting than a smaller one. There is also evidence that the birds cannot breed at all unless a certain number of pairs is present, and it is suggested that this 'threshold value' is different for different species. Dr. Darling concludes from this, and from other evidence, that the displays of these birds have as one function the stimulation of their neighbors.

The second part of Dr. Darling's theory is concerned with the survival ratio of the young. He points out that the longer the 'spread' of nesting-time (*i.e.* the smaller the colony), the longer the period of time during which helpless young are exposed to predators. According to the theory, then, the shorter the spread of nesting-time (or the larger the colony), the higher the survival ratio (since predators would have less time in which to take chicks).

The book as a whole is well arranged and constitutes a distinct contribution, both to ecology and to bird sociology. It is, in fact, so good as to make the present reviewer feel sorry that its principal defect is such a very important one. Dr. Darling, as far as this book is concerned, is almost completely lacking in a critical attitude, both toward his own work and toward that of other biologists. A glance at his own figures will show that predators do not take a "steady toll" (page 69) of chicks, but rather that there is much more predation in larger colonies than in smaller ones; survival ratio thus depends on more factors than merely the spread of nesting-time. The diagram on

page 70, therefore, represents a highly idealized version of the facts. Data on development of the young, age at which they are most liable to predation, etc., which would enable the reader better to judge the theory, are entirely lacking. Dr. Darling overlooks the fact that if amount of predation were constant, a larger colony would have a higher survival ratio without the intervention of any other factor.

Other examples of the uncritical attitude are in the chapter on "Sexual Periodicity." Dr. Darling says (page 14) that "both Rowan and Bissonnette have mentioned . . . bodily activity in relation to maturation of the gonads," without even hinting that the two latter biologists disagree strongly as to the effect of this factor (a very important disagreement, incidentally). The reader is left uncertain as to Dr. Darling's opinion about the effect of temperature on sexual activity (pages 8-9, 12-14). In his discussion of Gull courtship, he frequently refers to Goethe's recent extensive paper on the Herring Gull, without making his descriptions of displays of the same species clear enough so that the reader can tell when he is referring to those already described by Goethe and when he disagrees with the German description. There is no attempt to correlate recent work on various species of Gulls with his own observations.

Naturalists who insist that natural history can be investigated only by their own tried and more or less true methods will be much impressed by the amount of information Dr. Darling has got by simple observation; the present reviewer is just as impressed by the lack of experimental data, which reduces much of the discussion to the level of speculation.

What is already a good book could have been made immeasurably better by the methods of the experimental biologist, and especially by something of his critical attitude.—D. S. Lehrman.

Forest Trees of the Pacific Coast. By Willard Ayres Eliot. G. P. Putnam's Sons, New York, 1938. 565 pp. $5.00.

An excellent introduction to the trees of the coast, from Alaska to northern California and eastward to the western slope of the Rockies; containing scholarly but brief accounts of the outstanding characters, distribution, and habitats of 163 species, about 250 faultless photographs, a short leaf-key, and an index; recommended for amateurs, outdoor clubs and nature teachers in the region indicated . . . and for every tourist lucky enough to visit there.—J. J. Hickey.

Textbook of Dendrology. By W. M. Harlow and E. S. Harrar. McGraw-Hill, New York, 1937. 527 pp. $4.50.

This book has been admirably designed for beginning students in forestry. Rather than bury their readers with the details of the thousand tree species native to this continent, the authors have covered only as many genera as possible and have illustrated these with the species of greatest importance to forestry. Their work is abundantly illustrated by adequate photographic half-tones and includes a glossary, selected references, and an index.—J. J. Hickey.

The Auk (April).—Dr. Joseph Grinnell's memorial of Richard C. McGregor (1871–1936), which begins this number, is an interesting sketch of that active ornithologist, who devoted the last thirty-odd years of his life to the birds of the Philippines, on which he published no less than ninety papers. Another biographical paper, the result of patient research on the part of its author, Anna Stowell Bassett, chronicles all she can learn of the life of an old naturalist, John Abbot, who lived in Georgia from 1776 into the nineteenth century. Abbot was chiefly known as a lepidopterist, but he painted a series of unpublished water-colors of the birds of Georgia that are owned by the Boston Society of Natural History. Captain L. R. Wolfe's long paper on the birds of central Luzon shows close observation of little-known Philippine species. The Tagalog names given indicate a certain amount of knowledge of the local avifauna on the part of the natives. James L. Peters discusses the systematic position of the tropical American genus *Ciccaba* among the Owls, using the form of the external ear as the most useful character for taxonomic purposes. He finds, among other things, that an African species for many years believed to belong to the genus *Strix* should apparently be transferred

to *Ciccaba*, raising the question of true relationship or convergence between the African and American birds. A new criterion of relationship between families is offered by Elizabeth L. Curtis and Robert C. Miller in the little-known sclerotic ring of bony plates that support the eyeball in birds, which is described in its various forms in a very thorough paper of nineteen pages. The authors find the ring heavier and stronger in diving and swift-flying birds than in others. Albert R. Brand and his associates at Cornell University are reducing one phase of the study of bird-song to an exact science through the count of vibration-frequency by means of the sound-recording apparatus. Mr. Brand gives the counts for fifty-nine Passerine species, of which the Blackpoll Warbler, with an average frequency of 8900 a second (more than an octave above the highest note on the piano), and an extreme height of 10,225, is the highest.

Other articles of varying degrees of interest and importance are Alfred M. Bailey and Robert J. Niedrach's 'Nesting of Virginia's Warbler' (illustrated), Kenneth A. Wilson's 'Owl Studies at Ann Arbor, Michigan,' James Moffitt's 'Two Southern Petrels in the North Pacific,' J. Warren Jacobs's 'The Eastern Cowbird *vs.* the Kentucky Warbler,' and Herbert W. Brandt's 'Two New Birds from the Chisos Mountains, Texas' (Vireo and Nuthatch subspecies).

In the department of Notes and News, Herbert Friedmann, President of the American Ornithologists' Union, makes a vigorous and timely plea for more constructive activity on the part of the Union.—Francis H. Allen.

Recent Publications

Edited by S. C. HARRIOT

Anon. Birds of Baltimore and Vicinity. Baltimore, Md.: The Natural History Society of Maryland. Free.

Anon. The National Parks of Canada. Rev. ed. Ottawa, Canada: Dept. of Mines and Resources. Free.

Anon. The Waterfowl Situation: 1937–38. Wildlife Research and Management Leaflet BS–111. Washington, D. C.: U. S. Bureau of Biological Survey. Free.

Beaty, John Y. Trees. Chicago, Ill.: Donohue & Co. $1.50.

Brant, Irving. "Sportsmen's" Heaven is Hell for Ducks. Publication No. 71. New York: Emergency Conservation Committee. Free.

Chapman, Wendell and Lucie Chapman. Beaver Pioneers. New York: Charles Scribner's Sons. $2.00.

Compton, Lawrence V. The Pterylosis of the Falconiformes with Special Attention to the Taxonomic Position of the Osprey. Berkeley, Calif.: Univ. of California Press. 50 cts.

Cottam, Clarence. Status of Eelgrass (*Zostera marina*) on the North Atlantic Coast, February, 1938. Wildlife Research and Management Leaflet BS–110. Washington, D. C.: U. S. Bureau of Biological Survey. Free.

Daglish, Eric F. Animals in Black and White. New York: Morrow & Co. $2.50.

Davidson, Frederick A. and Leroy S. Christey. The Migrations of Pink Salmon in the Clarence and Summer Straits Regions of Southeastern Alaska. Bulletin No. 25. Bureau of Fisheries. Washington, D. C.: Superintendent of Documents. 10 cts.

Dickey, Donald R. and A. J. Van Rossem. The Birds of El Salvador. Chicago, Ill.: Field Museum of Natural History. $4.50.

Ditmars, Raymond L. Book of Insect Oddities. Philadelphia, Pa.: J. B. Lippincott Co. $2.00.

Fisher, G. Clyde. Nature Encyclopedia. New Edition. (Formerly Nature Secrets.) New York: University Society. $2.50.

Hadfield, Miles. Everyman's Wild Flowers and Trees. New York: E. P. Dutton & Co. $2.00.

Hamilton, C. L. Terracing for Soil and Water Conservation. Farmers' Bulletin No. 1789. U. S. Department of Agriculture. Washington, D. C.: Superintendent of Documents. 10 cts.

Hawley, Ralph C. Forest Protection. New York: John Wiley & Sons. $2.75.

Howell, Arthur H. Revision of the North American Ground Squirrels. North American Fauna No. 56. Washington, D. C.: Superintendent of Documents. 40 cts.

Hurley, Richard J. Key to the Out of Doors: A Bibliography of Nature Books and Material. New York: H. W. Wilson Co. $2.50.

Lippincott, Joseph W. Animal Neighbors of the Countryside. Philadelphia, Pa.: J. B. Lippincott Co. $2.50.

McDonald, Angus. Erosion and Its Control in Oklahoma Territory. Misc. Pub. No. 301. U. S. Department of Agriculture. Washington, D. C.: Superintendent of Documents. 15 cts.

Needham, James G. and Paul R. Guide to the Study of Fresh-Water Biology. Rev. ed. Ithaca, N. Y.: Comstock Publishing Co. $1.00.

Ritter, William. California Woodpecker and I. Berkeley, Calif.: Univ. of California Press. $3.50.

Ruth, Clara. Fort Niobrara Game Preserve, Nebraska. Wildlife Research and Management Leaflet BS–109. Washington, D. C.: U. S. Bureau of Biological Survey. Free.

Seaver, George. Edward Wilson: Nature Lover. New York: E. P. Dutton & Co. $3.00.

Sharples, Ada W. Alaska Wild Flowers. Stanford University, California.: Stanford University Press. $3.00.

Williamson, Kenneth. The Sky's Their Highway. New York: Dodd, Mead & Co. $3.50.

DUCK SEASON INCREASED FIFTY PER CENT

Restrictions Relaxed on Protected Species

As this issue of BIRD-LORE goes to press, word is received of the Federal water-fowling regulations for this fall and winter—and they include an increase of hunting days from thirty to forty-five in each of three zones in the United States. Furthermore, they are spread over a period from October 1 to December 29, whereas last year's extreme dates were October 9 to December 26. This "slight easing of the restrictions," as it is described by Chief Ira N. Gabrielson of the U. S. Biological Survey, also includes restoration of Canvas-backs, Redheads, Bufflehead, and Ruddy Ducks to the open list with a daily bag limit on these birds of three of each or of all together, and the extension of possession limits on all Ducks to two days' take. Five Geese may be taken in one day, and ten possessed at one time. Off-shore shooting of Scoters begins in the northeastern states September 15.

The shooting of Mourning Doves will run from September 1 (when, undoubtedly, many of these birds have young in the nest) to January 31, including all zones; and White-winged Doves August 1 to November 15.

Despite considerable agitation in some parts of the country, the Government did not weaken on its proscription of baiting and live decoys, and it also continues in force its limitation of the number of shells in a shotgun at one time to three. Equally important, it did not give way to demands for a 'staggered' season.

NOTES FROM FIELD AND STUDY

Atlantic Murre on Long Island, N. Y.

On the morning of January 16, 1938, Dr. and Mrs. Heathcote Kimball and Mr. H. D. Gerard came upon an Atlantic Murre at the edge of the water at Oak Beach, Fire Island Inlet. Perhaps enfeebled by a patch of oil on the breast, it allowed them to approach close enough to make the photograph herewith reproduced; and it was unable to fly or at least did not do so though it swam well enough.

Mr. Sven C. Raven, of East Moriches, L. I., has also shown me the skull of an Atlantic Murre in his possession, which bird he picked up dead and badly oiled near Moriches Inlet, March 31, 1936.

These data seem to prove that the Atlantic Murre reaches Long Island waters at least occasionally, though no doubt much rarer there than the Brunnich's. The destructiveness of oil to birds of this family is too well known to require proof.—J. T. NICHOLS.